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BANK OF BOTSWANA MONETARY POLICY STATEMENT 2002

Bank of Botswana[1]

1. INTRODUCTION

1.1 For a number of years now, the Bank has used the annual Monetary Policy Statement to report on inflation and monetary policy developments in the previous year and to provide an assessment of the prospects for inflation for the year ahead. The annual Statements have been supplemented by mid-year reviews, highlighting progress made in the first half of the year in meeting the objectives and updating forecasts and analysis relating to the remaining six months. The 2002 Monetary Policy Statement builds upon this approach.

1.2 As in the past, the current Statement reviews recent developments in inflation and monetary policy and presents the Bank's analysis and policy position for the coming year. It also includes a section on the framework used by the Bank in the formulation of monetary policy, as well as the Bank's explicit annual objectives for inflation and credit growth, and an explanation of how these are derived.

2. THE BANK'S MONETARY POLICY FRAMEWORK AND OBJECTIVES

2.1 The principal objective of monetary policy in Botswana is the achievement of sustainable low inflation. The control of inflation is the means by which monetary policy contributes, along with other Government policies, to the ultimate national objective of a stable macroeconomic environment and sustainable rates of growth of incomes and living standards.

2.2 The Bank pursues its monetary policy objective in support of the broader national objectives of economic diversification and export competitiveness. The control of inflation helps Botswana generally to maintain competitiveness, but the Bank seeks specifically to achieve a rate of inflation that, at a minimum, will maintain relative stability in the real exchange rate and avoid the need for a devaluation of the Pula. Given an exchange rate policy that aims to keep the nominal effective exchange rate of the Pula constant,[2] this yields the Bank's annual inflation objective, which is described more fully in Section 7 below.

2.3 The main tool of monetary policy used by the Bank to achieve its inflation objective is the level of interest rates. Changes in interest rates, along with other factors such as the exchange rate, balance of payments, and the Government's fiscal policy, affect the overall level of demand for goods and services in the economy. The Bank, therefore, has its main influence on inflationary pressures in the economy indirectly through its influence on domestic demand relative to a given level of national output.

2.4 In pursuing sustainable low inflation, the Bank is mindful of the negative consequences that an overly tight monetary policy can have for economic activity generally, and employment and investment in particular. Therefore, in its use of interest rates to restrain inflation, the Bank aims to balance the needs of savers and investors by keeping real interest rates high enough to provide a positive return to savers but not allowing them to be so high that they significantly discourage private sector borrowing to finance viable investment projects. In this regard, the Bank seeks generally to maintain real interest rates in Botswana at levels that are comparable to those prevailing in international capital markets; deviations from these rates will be for the purpose of moderating inflationary or deflationary pressures arising from domestic demand.

2.5 To implement policy, the Bank focuses on intermediate targets which influence the main components of domestic demand. The principal intermediate target in the current policy framework is the rate of growth of credit to the private sector, since it is considered an important contributor to the growth of private consumption and investment and, importantly, can be directly influenced by monetary policy through interest rates. The factors considered in establishing the Bank's monitoring range for credit growth, and the specific range for 2002, are also described more fully in Section 7 below. The rate of growth of Government spending is also an important indicator of domestic demand, given that a large proportion of this demand is derived from expenditure on public consumption and investment. This continuing large role of the Government in the economy underscores the need for complementarity between fiscal and monetary policy. Other indicators besides credit growth and Government expenditure that the Bank considers when assessing the overall stance of its policy are measures of external demand and cost pressures, and indicators of domestic cost pressures, such as wage growth, productivity and capacity growth.

3. DEVELOPMENTS IN INFLATION IN 2001

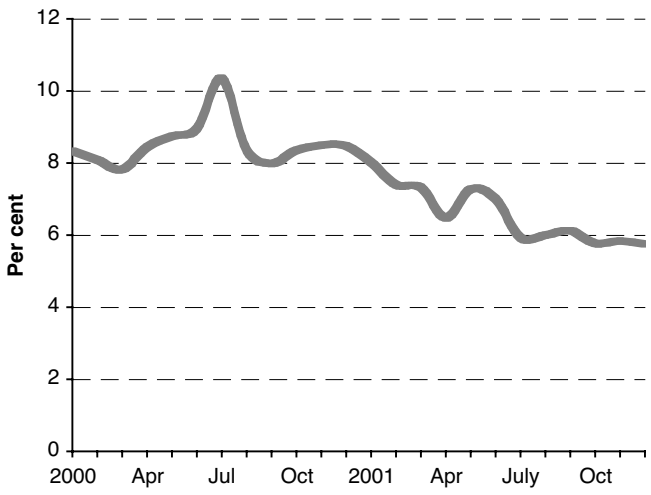
3.1 It was within the policy framework described above that the 2001 Monetary Policy Statement specified the Bank's objective of achieving a reduction in inflation from the increased levels that had been seen during 2000. This inflation objective was presented in the context of an international environment that was experiencing increased inflation, and a domestic environment that was characterised by excessive demand pressures, particularly those arising from high rates of credit growth. However, it was expected that the international environment would be benign during the year, with lower inflation anticipated, and that monetary policy measures already in place would contribute towards reduced inflationary pressures arising from domestic demand.

3.2 In the event, inflation in Botswana continued to ease

[1] First published by the Bank of Botswana, 20 February 2002

in 2001 (Chart 1), reaching 5.8 percent by the end of the year, compared to 8.5 percent at the end of 2000. Average inflation for 2001, at 6.6 percent, was also well below the 8.5 percent average for the previous year. The 5.8 percent inflation rate that prevailed during the last three months of 2001 was the lowest since February 1985, when it was 5.4 percent. As described in more detail below, the decline in inflation mostly reflected low inflation and weak demand globally, and lower international oil prices. Domestic demand pressures on inflation were, however, comparable with those in 2000, as reflected by the growth rates of credit to the private sector and government spending. Inflation was also affected by technical factors relating to domestic administered prices, especially public sector housing rentals; the impact of overlapping rental adjustments by the Botswana Housing Corporation (BHC) in July 2000 and May 2001 pushed up inflation in the middle of the year, but also led to a sharp decline in inflation from July onwards when this factor fell out of the consumer price index.

CHART 1: BOTSWANA INFLATION



3.3 Price increases for most commodity groups declined during the year. The most dramatic reductions were in respect of fuel and power, where year-on-year inflation fell from 22.5 percent in 2000 to 3.0 percent in 2001, and transport costs, where inflation fell from 15.4 percent to 4.8 percent. A few commodity groups experienced higher inflation during 2001 (clothing and footwear, and education), but the overall impact of these increases was small.

3.4 The lower inflation in 2001 compared to 2000 were also apparent in respect of goods and services classified by tradeability. Inflation for non-tradeables fell from 9.1 percent in December 2000 to 7.7 percent in December 2001, while tradeables inflation also slowed down, from 7.9 percent to 5.1 percent. Lower tradeables inflation was mostly due to the reduction in the annual rate of increase in the cost of imported tradeables, which fell from 8.8 percent in 2000 to 4.6 percent in 2001, due largely to lower global inflation and possibly to the modest nominal appreciation of the Pula. Domestic tradeables inflation only fell slightly, from 6.3 percent in 2000 to 5.9 percent in 2001; this slow rate of decline most likely reflects the impact on incomes, and hence spending, of public sector salary and wage increases during the year, combined with changes in administered prices, especially rentals and water tariffs.

4. INFLUENCES ON DOMESTIC INFLATION

(a) International Developments

4.1 Globally, inflation was lower in 2001 compared to 2000 (Chart 2), reflecting the global economic slowdown and subdued demand, which was aggravated by the terrorist attacks of September 11, 2001 in the United States of America. Overall inflation in the advanced economies was 1.2 percent in 2001, considerably lower than the 2.5 percent in 2000.[3] Inflation in the U.S. fell particularly sharply, from 3.4 percent in 2000 to 1.6 percent in December 2001. South African inflation also fell significantly; core inflation was 5.8 percent in December, compared to 8.6 percent at the end of 2000.

(b) Aggregate Demand

4.2 The growth rate of credit extended by the commercial banks slowed down in 2001, with average annual growth of 13.2 percent compared to 28.4 percent in 2000. By the end of 2001, the year-on-year rate of credit expansion was 10.7 percent, down from 17.7 percent at the end of 2000. However, these figures understate the underlying trend rate because of the impact of the extension and subsequent early repayment of loans, using offshore funds, by certain large borrowers. As can be seen in Chart 3, if these loans are excluded, credit growth did not slow down significantly in 2001; it remained between 15 percent and 20 percent during the year.

4.3 The annual growth rate of Government spending averaged 11 percent during 2001, similar to the average for 2000. However, towards the end of the year the growth rate picked up sharply, indicating potential emerging demand and inflationary pressures arising from the Government budget.

4.4 Economic growth for the period 2000/2001 (July-June) was 9.1 percent, marginally higher than the 8.1 percent recorded during the previous national accounts year (1999/2000). However, this was largely the result of a very large increase (19.6 percent) in mining output, which in turn reflected the impact of the completion of the Orapa 2000 expansion project on diamond production. Economic growth excluding mining and Government in 2000/01 was only 3.0 percent, a sharp reduction from 6.2 percent in

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[2] Specifically, the policy is to peg the value of the Pula to a basket of currencies comprising the South African rand and the International Monetary Fund's Special Drawing Right (SDR), in proportions that broadly reflect Botswana's trade patterns.

[1] Calculated as an average of inflation rates in the USA, UK, euro zone and Japan, using SDR basket weights.

CHART 2: INTERNATIONAL INFLATION

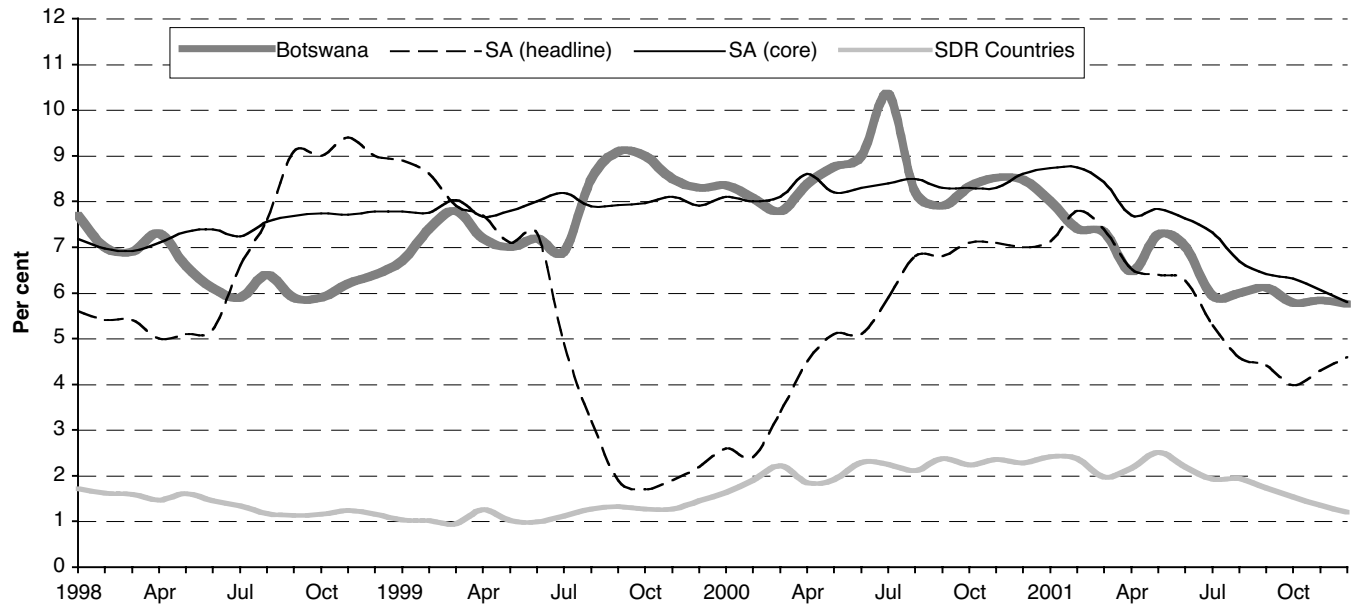
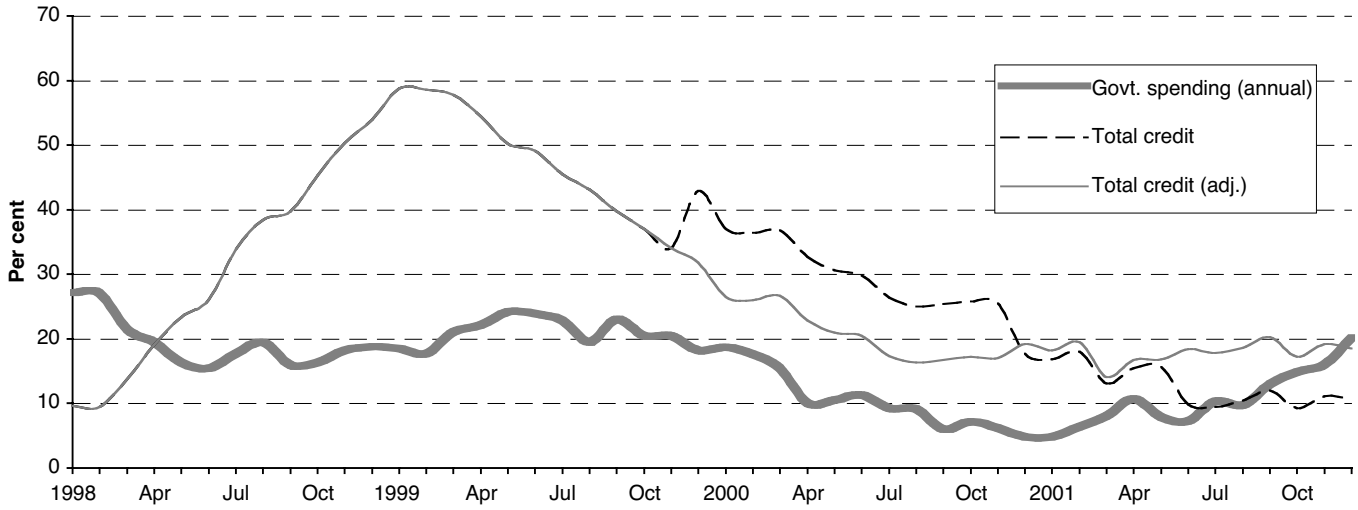


CHART 3: GROWTH RATES OF CREDIT AND GOVERNMENT SPENDING (YEAR ON YEAR)



1999/2000, indicating a considerable economic slowdown in the non-mining private sector. The GDP figures suggest, therefore, that aggregate demand is growing more slowly than the picture presented by the credit growth and Government spending indicators.

(c) Nominal and Real Exchange Rates

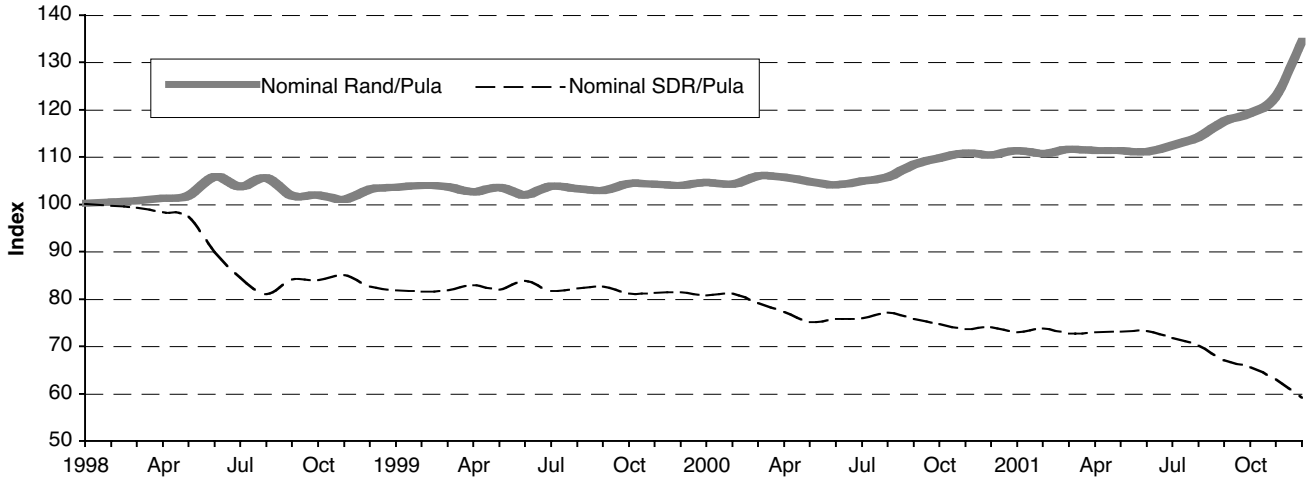
4.5 The main development with regard to exchange rates during 2001 was the rapid depreciation of the South African rand against major international currencies; over the year as a whole, the rand depreciated by 34 percent against the SDR. As a result of the link to the rand through the currency basket, the Pula also depreciated against major international currencies, losing 20 percent of its value against the SDR during the year.[4] However, the Pula appreciated markedly against the rand, gaining 22 percent over the same period. A number of factors have been identified as contributing to rand volatility; they include political and economic problems in Zimbabwe, the slow pace of the South African privatisation programme, industrial unrest as well as adverse investor sentiments in respect of emerging markets, which were accentuated by debt repayment problems in Argentina.

4.6 In nominal effective terms, the Pula was relatively stable for most of the year (Chart 4). However, volatility in bilateral rates, particularly towards the end of the year, caused the Pula to appreciate in effective terms, for technical reasons, and by the end of the year the nominal effective exchange rate (NEER) of the Pula was 5.1 percent higher than at the end of 2000.

4.7 The real effective exchange rate of the Pula appreciated by 6.8 percent during 2001 (Chart 5). Most of this reflected

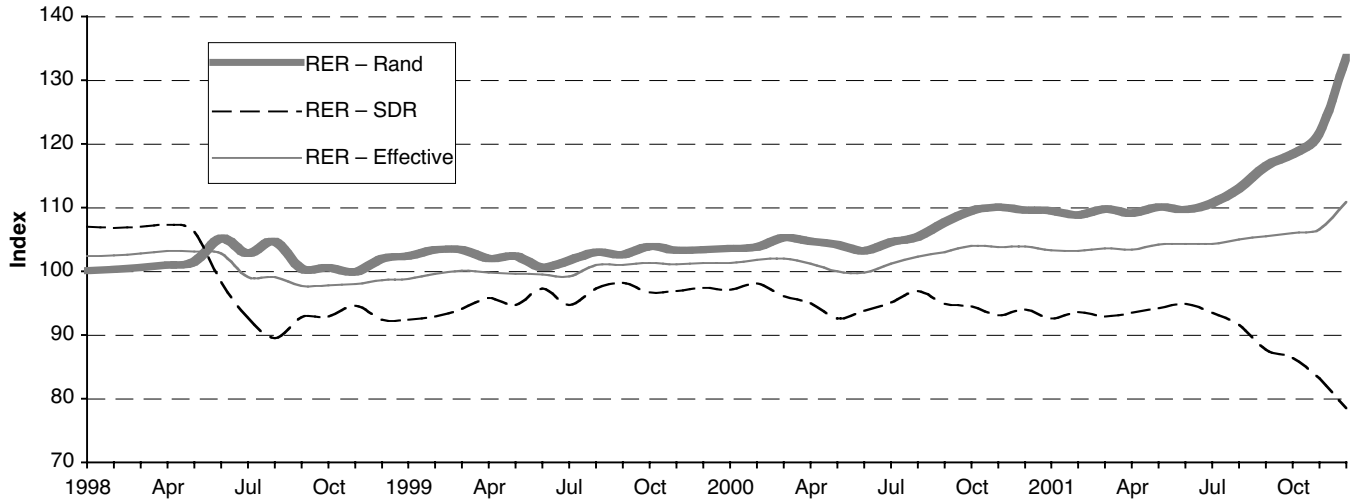
[4] The Pula depreciated by 23 percent against the US dollar, 21 percent against the pound sterling, 19 percent against the euro and 11 percent against the Japanese yen during 2001.

CHART 4: NOMINAL EXCHANGE RATE INDICES (NOVEMBER 1996 = 100)



the appreciation of the nominal effective exchange rate over this period, with the remainder reflecting higher inflation in Botswana compared to trading partner countries.

CHART 5: REAL EXCHANGE RATE INDICES. (NOVEMBER 1996 = 100)



5. MONETARY POLICY IMPLEMENTATION DURING 2001

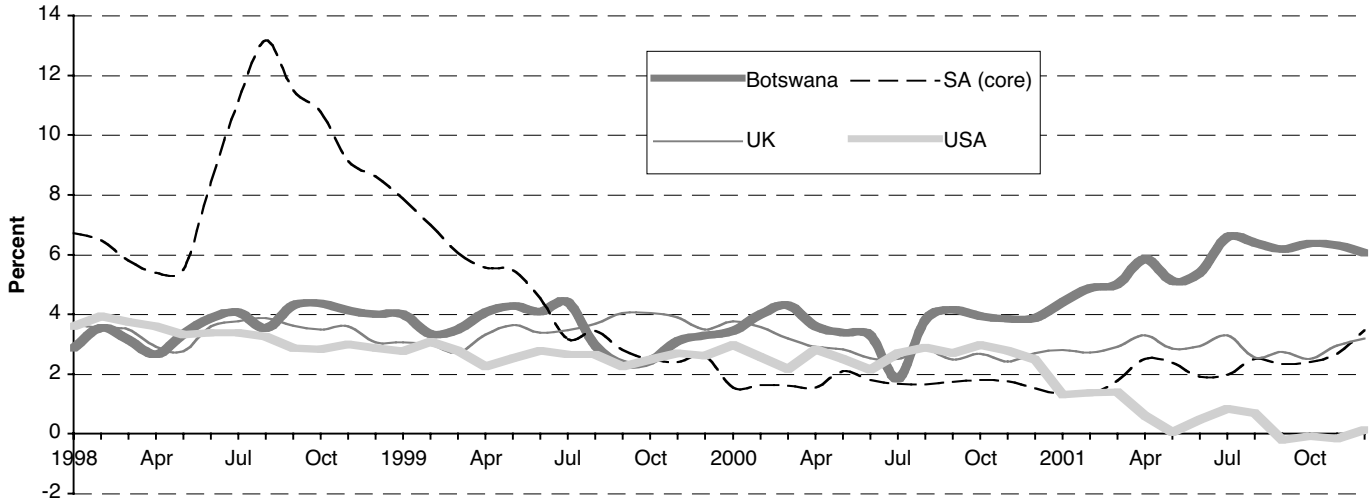
5.1 In the 2001 Monetary Policy Statement, the Bank stressed the need to maintain the momentum of the downward trend in credit expansion by staying the course with respect to interest rates until such time that there was clear evidence that inflationary pressures had abated. Apart from a temporary increase in mid-year due to BHC rental increases, inflation declined through the year, and in the last three months fell to 5.8 percent. However, monetary policy remained restrictive, reflecting the fact that the reduction in inflation had not been sustained for a long enough time and had come largely from lower imported inflation. There were also concerns about incipient demand pressures, as the growth rates of both credit and Government expenditure were at undesirably high levels by the end of the year, and disposable incomes had risen sharply due to public sector wage and salary increases and an effective tax cut from an increase in the income tax threshold. It was considered that these developments added to the risk of a reversal of the recent decline in inflation, especially if monetary policy was eased.

5.2 Open market operations were conducted during the year to ensure that yields on BoBCs were consistent with the policy stance. The three-month BoBC rate ranged between 12.5 percent and 12.9 percent during the year. This reflects the unchanged policy stance since October 2000 (the Bank Rate has been maintained at 14.25 percent), although the lower rates on BoBCs in the latter half of the year may indicate market expectations of lower interest rates. BoBCs outstanding rose by 39 percent, from P3 712 million to P5 148 million, mainly as a result of the need to absorb liquidity arising from the growth of the net foreign exchange reserves[5] (P4 831 million) over and above the growth of Government deposits at the Bank (P3 662 million).

5.3 While there was little variation in nominal interest rates, Botswana's real interest rates rose during 2001, due to lower

[5] Change in the foreign exchange reserves net of revaluation gains attributable to the Bank of Botswana.

CHART 6: REAL INTEREST RATES – INTERNATONAL COMPARISONS



inflation (Chart 6). As at the end of the year, the real three-month BoBC rate was 6.1 percent, compared to 3.9 percent at the end of 2000. This contrasts with the downward trend in real interest rates in the major economies, resulting mainly from monetary policy easing. However, comparable South African real interest rates rose from 1.5 percent to 3.5 percent in 2001, due to the reduction in inflation.

6. OUTLOOK FOR INFLATION IN 2002

6.1 Globally, consumer demand and business confidence remain subdued while economic growth is weak, contributing to reduced global inflation. There is, however, uncertainty with respect to oil prices, which have been considerably lower since the terrorist attacks of September 11, 2001 in the USA. The recent agreement by OPEC members to reduce production, and indications that many non-OPEC members will follow suit, suggests that there may be an increase in oil prices in 2002.

6.2 Inflation in South Africa, which is the most important external influence on Botswana inflation, has declined. This favourable trend in inflation could reverse, however, if as is widely expected, South African import prices rise in response to the depreciation of the rand against major international currencies late in 2001. At the moment, core inflation in South Africa is forecast to rise to 6.8 percent by mid-year and average 7.2 percent for 2002 as a whole. In contrast, inflation in the major industrial countries is forecast to average 1.2 percent in 2002, similar to the 2001 figure. If the nominal effective exchange rate of the Pula remains unchanged, this would suggest that imported inflation in Botswana in 2002 is likely to be slightly higher, on average, than it was in 2001.

6.3 Domestically, there are mixed indications as to demand pressures. Export demand is likely to remain subdued due to low rates of global economic growth and, possibly, the impact of the nominal appreciation of the Pula in 2001, with the latter causing some switching from domestic to import demand. This may alleviate some of the pressure from credit growth that would otherwise spill over to growth in domestic demand. Nevertheless, underlying credit growth remains undesirably high and Government expenditure growth began to accelerate in 2001 compared to the previous year. The 2002 Government Budget indicates that this trend is likely to continue, with Government spending projected to rise sharply, by 27 percent, in the 2002/03 fiscal year, although, due to implementation constraints, actual spending growth may well be lower than this. Nonetheless, there are likely to be considerable inflationary pressures arising from the Government budget.

6.5 As in the past, adjustments in administered prices will have an impact on inflation. Whether or not fuel prices are increased will depend upon the combination of price developments in international markets and exchange rate developments; while oil prices fell sharply in US dollar terms in the last three months of 2001, the depreciation of the Pula against the US dollar has worked against this. Any upward adjustment in domestic fuel prices would have an additional impact if transport fares were increased as a result, as well as filtering into other domestic prices in time. It is also likely that BHC will increase rentals in mid-2002. The introduction of Value Added Tax (VAT) in July 2002 is also likely to cause an increase in the price level, causing a one-off increase in inflation.

7. MONETARY POLICY STANCE IN 2002

7.1 On the basis of the Bank's assessment of currently available forecasts of inflation in South Africa and the SDR countries for 2002, the Botswana inflation rate necessary to achieve general stability in the real effective exchange rate would be in the range of 4-6 percent.[6] This inflation objective, which the Bank will seek to achieve over 2002, is expressed as a range to reflect the range of possible outcomes currently forecast for South Africa and the SDR countries. If inflation in these countries meets or exceeds the average of the forecasts, then inflation in Botswana will need to stay within the upper part of the

[6] In view of the volatility of the standard measure of headline inflation, the Bank is in the process of reviewing possible measures of core inflation that would be suitable as indicators of underlying inflationary pressures and hence better suited to the purpose of guiding monetary policy. Several measures of core inflation show promise and are currently being evaluated for use by the Bank.

range. Similarly, if the inflation outcomes in these countries throughout the year are tending to improve on the average expected rate, the Bank will aim to ensure that inflation in Botswana falls within the lower part of the range. In the 2002 mid-year review of monetary policy, the Bank will evaluate whether this inflation objective needs adjusting in light of inflation trends elsewhere.

7.2 The range for the growth rate of private credit that is considered to be compatible with achieving this inflation outcome is 12.5 to 14.5 percent. This range is calculated from the estimated long-run capacity growth (aggregate supply) of the non-mining sector of the economy, as presented in the current National Development Plan (NDP 8), and the desired inflation rate for the year, with an allowance for the process of financial deepening as the economy develops. It also assumes a neutral impact of Government spending on domestic demand.

8. SUMMARY AND CONCLUSIONS

8.1 As was detailed earlier in this Statement, there have been encouraging developments in the trend of inflation in Botswana over the past year. Inflation has remained relatively low or continued to decline in major industrialised economies and, most importantly for Botswana, in South Africa. As a result, imported inflation eased, contributing to the slowing in the overall rate of inflation in Botswana. Other prices have also eased but not to the same extent, due partly to increases in administered prices and partly because of pressures from domestic demand as indicated in the continuing high levels of credit growth and Government spending.

8.2 The general expectation for 2002 is that non-inflationary growth should resume in the major industrial economies – except perhaps in Japan – by the second half of the year, due in large part to the aggressive easing of monetary policy by the central banks in these countries during 2001.

8.3 The risks to this generally more positive outlook for inflation compared to a year ago come from both domestic and external factors. Domestically, the main threat to inflation is demand pressures arising from the projected sharp increase in Government spending in the 2002/03 fiscal year. Externally, if OPEC is successful in cutting production and convincing non-OPEC countries to do the same, oil prices could rise more than what current consensus forecasts assume will be the case. There is also the distinct possibility that the impact of last year's depreciation of the rand on inflation in South Africa could be more than is currently expected. In the circumstances, the Bank will need to ensure that the resulting rise in domestic costs do not lead to a generalised rise in domestic inflation.

8.5 Looking ahead to 2002, the task for monetary policy more generally will be to ensure that the reduction in inflation that was achieved towards the end of 2001 is sustained. This will be helped if lower inflation contributes to expectations of reduced future inflation. In the short term, if the Bank is to meet its inflation objective of 4-6 percent, there remains a need for continued restraint in the growth of domestic demand, especially demand arising from underlying growth in domestic credit. The need to contain credit growth will be particularly acute in light of the announced increase in public expenditure.

Bank of Botswana Monetary Policy Statement 2002: Mid-Year Review

Bank of Botswana[1]

1. INTRODUCTION

1.1 The Monetary Policy Statement (MPS) released in February 2002 specified several objectives that the Bank of Botswana intended to meet during the year. The purpose of this mid-year review of the MPS is to ascertain the extent to which the objectives have been met as at the middle of the year; to review the outlook for economic and financial trends for the remainder of the year; and, to evaluate the need or otherwise for a change in the stance of policy.

1.2 The MPS stated that, 'On the basis of currently available forecasts of inflation in South Africa and the SDR countries for 2002, the Botswana inflation necessary to achieve general stability in the real effective exchange rate (REER) would be in the range of 4–6 percent'. The inflation objective was expressed as a range to reflect possible outcomes of forecasts, current at the time, for South Africa and the SDR countries.

1.3 To achieve the inflation objective, monetary policy has been focused on the control of an intermediate target, the growth rate of credit to the private sector, while it also takes account of the growth in government spending. These two factors are considered to be the main determinants of aggregate demand in Botswana and, therefore, the main domestic causes of inflationary pressures arising from the imbalance between aggregate supply and expenditure. For 2002, the desired range of credit expansion is 12.5-14.5 percent.

2. THE OUTTURN FOR THE FIRST HALF OF 2002

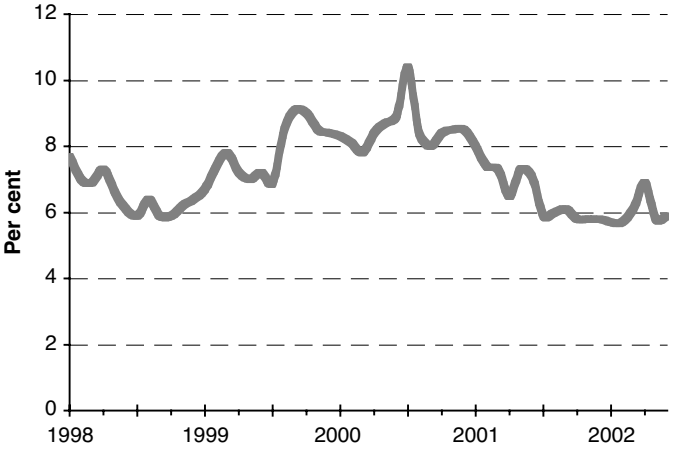
2.1 The domestic economic and financial outturn for the first half of 2002 has generally been as expected in the MPS. Inflation has been largely stable, fluctuating around the upper level of the desired target range. Credit growth was below or within the target range for the first half of the year, although the trend has been upward and underlying credit[2] growth has been above the target range. While the Bank maintained a tight monetary policy stance, domestically generated inflation rose in the first six months of the year but was moderated by the slowdown in imported inflation.

2.2 Although world economic performance improved in the first half of 2002 compared to last year, the recovery is now estimated to be slower than projected at the beginning of the year. Global inflation was largely stable during the first six months of 2002, leading most of the major central banks to maintain a relatively stimulative monetary policy stance in order to support the current growth trend.

(a) Domestic Inflation

2.3 Inflation[3] eased further in the early months of the year, moving from 5.8 percent in December 2001 to 5.7 percent in January and February 2002, the lowest rate experienced since February 1985 when it was 5.4 percent. It rose again to a high of 6.9 percent in April before falling back to under 6 percent in June (see Chart 1). The main contributors to inflation during the first half of 2002 were increases in the cost of food, alcohol and tobacco, and housing. The rise in food prices was due to a number of factors, including the shortage of cereal products resulting from drought conditions in Southern Africa, higher international grain prices and the depreciation of regional currencies against the US dollar. Housing costs were pushed up by the increase in Botswana Housing Corporation (BHC) rentals, which was the cause of the temporary jump in inflation in April.

CHART 1: BOTSWANA INFLATION



2.4 The overall stability of inflation was a combined result of higher inflation for domestically produced tradeable goods and a slowdown in price increases for non-tradeables and imports. Inflation for domestic tradeables rose to 8.2 percent in June 2002 from 5.9 percent in December 2001, while that for non-tradeables slowed during the same period to 6.9 percent from 8.3 percent. In the light of lower global inflation and the modest nominal appreciation of the Pula in the last quarter of 2001, imported inflation also slowed, to 3.8 percent in June 2002 from 4.6 percent in December 2001. The relative trends in inflation for domestic and imported tradeables partly reflect the nature of commodity classification within these

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[1] First published by the Bank of Botswana, 22 August 2002.

[2] Underlying credit excludes loans to certain large companies acquired in 1999 and paid off in 2001 using offshore funds. A substantial overdraft granted to one large company to pay tax and outstanding for ten days is also excluded from the credit growth figures.

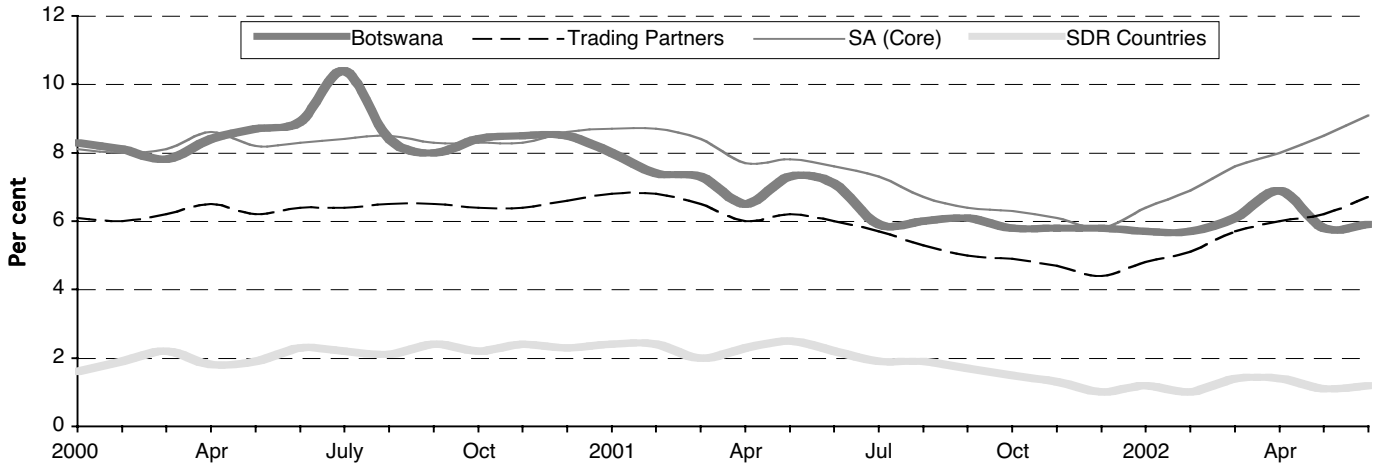
[3] Unless otherwise indicated, all inflation rates and growth rates are year-on-year changes.

categories. For instance, a major contributor to rising domestic tradeables inflation has been cereal prices, for which annual inflation was 11.9 percent in June, compared to 4.4 percent at the beginning of the year. Notwithstanding their classification as domestic tradeables, cereals are mostly imported and their prices would normally reflect this fact.

2.5 The overall or conventional headline measure of inflation is subject to the influence of volatile or large price fluctuations, such as those due to seasonality or administered price changes, that may not warrant an immediate policy reaction. Hence the Bank is developing a measure of core inflation that is more appropriate as an indicator of underlying inflationary pressures and, as such, a better guide for monetary policy. Initial indications from these measures of core inflation are that inflationary pressures in recent months have been somewhat less than those indicated by the headline measure of inflation.

(b) International Inflation Trends

CHART 2: INTERNATIONAL INFLATION



2.6 Inflation in Botswana's trading partners was on average higher in the first half of 2002 at 6.2 percent compared to 4.1 percent at the end of 2001 (chart 2). While in the SDR economies inflation was unchanged at 1.0 percent in June 2002, the same as at the end of 2001, South African inflation increased sharply during this period. South African core inflation was 9.1 percent in June 2002, compared to 5.8 percent in December 2001, while CPIX[4] was 9.8 percent, well above the South African Reserve Bank's target of 3–6 percent for 2002 and 2003; the main cause of this was the lagged impact of last year's depreciation of the rand as well as a rise in oil prices and labour costs.

(c) Domestic Credit

2.7 The growth of total bank credit rose to an average of 13.9 percent during the first half of 2002 (Chart 3) compared to an average growth rate of 13.2 percent in 2001. The growth rate of credit is, however, considerably higher if credit is adjusted for the impact of the extension and subsequent early repayment of loans, using offshore funds, by certain large borrowers. If these loans are excluded the average annual credit growth in the first half of 2002 was 20.9 percent, higher than its average growth of 18.3 percent in 2001. Within the total, the growth rate of credit extended to private sector businesses averaged 11.7 percent during the first half of 2002 or 24.6 percent after adjustment, while lending to households grew on average by 18.7 percent over the same period.

(d) Government Expenditure

2.8 Compared to 2001, government expenditure in 2002 is more expansionary. For the three months to March 2002 expenditure was 17.1 percent higher than for the corresponding period last year, while expenditure for the whole fiscal year ending March 2002 was 15.7 percent higher than in fiscal year 2000/01, against a growth rate of 11.4 percent in the previous fiscal year.

(e) Nominal Exchange Rates

2.9 Following its sharp depreciation towards the end of 2001, the South African rand recovered during the first half of 2002. As a result of the link to the rand through the currency basket, the Pula also strengthened against the major international currencies, appreciating by 6.6 percent against the SDR and by 12.1 percent against the US dollar. Against the rand, however, the Pula depreciated by 3.0 percent over the same period. As these movements against the different currencies in the basket were generally offsetting, the trade-weighted nominal effective exchange rate of the Pula was largely unchanged, appreciating by only 0.2 percent.

[4] CPI for metropolitan and other urban areas excluding mortgage interest rates.

CHART 3: GROWTH RATES OF CREDIT AND GOVERNMENT SPENDING (YEAR-ON-YEAR)

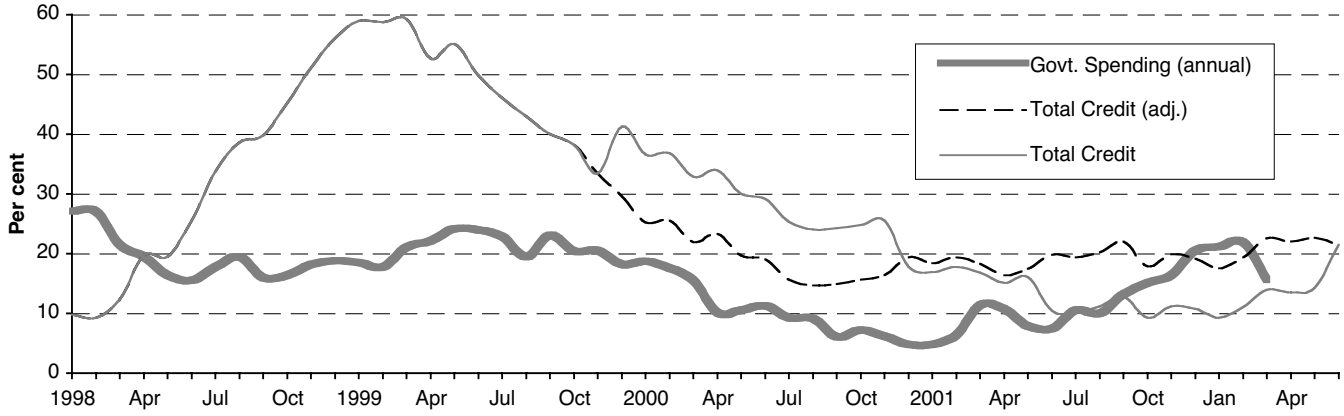
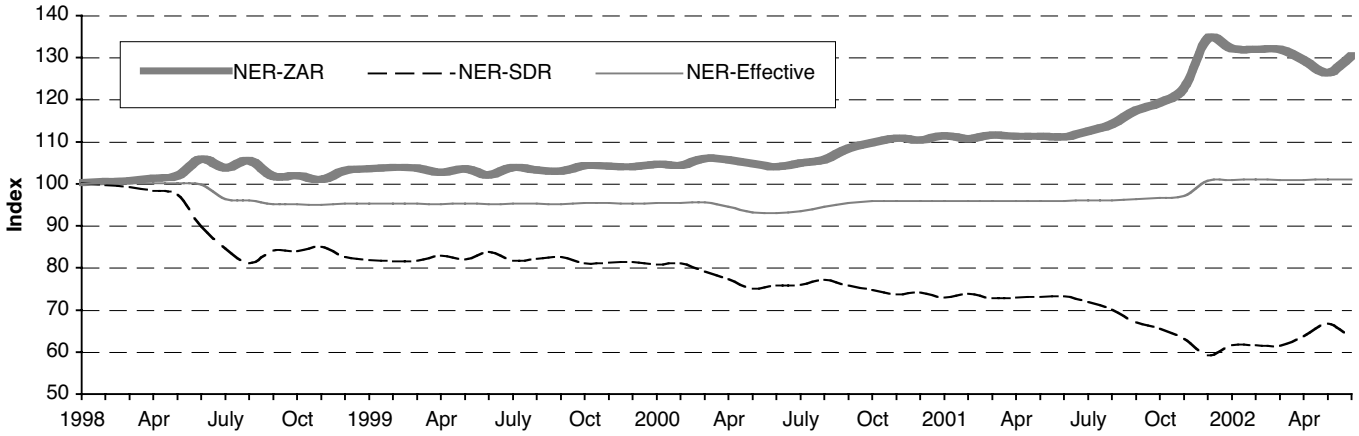


CHART 4: NOMINAL EXCHANGE RATE INDICES (NOVEMBER 1996 = 100)



(d) Real Exchange Rates

2.10 The real effective exchange rate of the Pula has also been relatively stable during the first half of the year, depreciating by 1.2 percent, which reflected stability in the nominal effective exchange rate and inflation in Botswana that was moderately below the average in trading partner countries. The Pula depreciated by 6.7 percent in real terms against the rand and strengthened by 9.3 percent against the SDR.

3. MONETARY POLICY IMPLEMENTATION DURING THE FIRST HALF OF 2002

3.1 The 2002 Monetary Policy Statement stated that, 'Looking ahead, the task of monetary policy more generally will be to ensure that the reduction in inflation that was achieved towards the end of 2001 is sustained'. As noted earlier in this note, inflation stabilised around the upper level of the target range of 4–6 percent during the first half of this year. Underlying credit growth, however,

CHART 5: REAL EXCHANGE RATE INDICES. (NOVEMBER 1996 = 100)

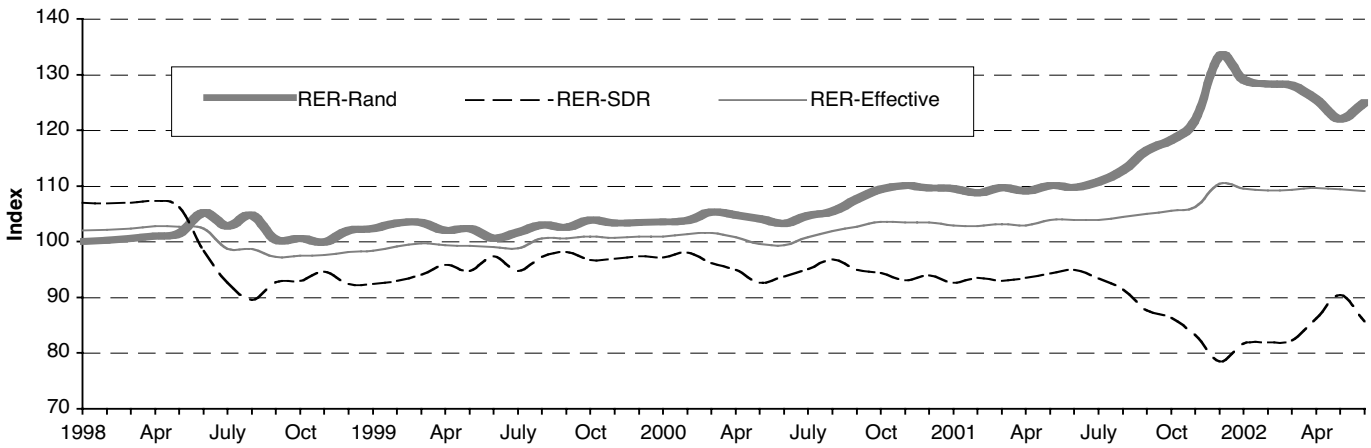
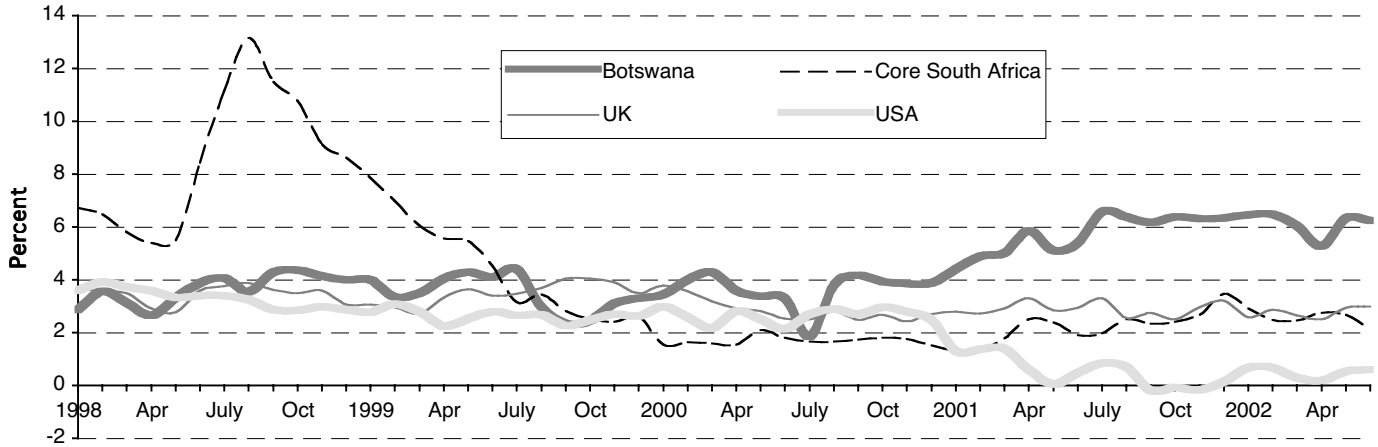


CHART 6: REAL INTEREST RATES – INTERNATONAL COMPARISONS



remains well above target and government spending continues to be expansionary. In light of inflationary pressures due to the acceleration in credit growth and government expenditure as well as the rise in inflation in South Africa, monetary policy has remained tight, with the Bank Rate maintained at 14.25 percent. Other interest rates were also broadly stable, reflecting the unchanged monetary policy stance; the nominal three-month BoBC rate rose to 12.51 percent in June 2002 from 12.21 percent at the end of 2001.

3.2 As both nominal interest rates and inflation were relatively stable, real interest rates varied little, with the real three-month BoBC rate declining to 6.2 percent in June 2002 from 6.3 percent at the end of last year. Real interest rates were also generally stable internationally during the first half of 2002, indicating the unchanged policy stance in the major economies and small changes in inflation. At 6.2 percent the real BoBC rate is substantially higher than real money market rates of 0.6 percent in the USA, 3.0 percent in the UK, and 2.1 percent in South Africa.

4. PROSPECTS FOR INFLATION IN THE SECOND HALF OF 2002 AND POLICY IMPLEMENTATION

(a) Domestic Factors

4.1 The growth rates for both commercial bank credit and government expenditure are higher than desirable and therefore risk contributing to inflationary pressures. However, demand is likely to be curtailed by the introduction of VAT in July and the associated reduction in real disposable incomes.

4.2 Several administered prices (rentals, electricity, water and rail) have already been raised, but mostly by relatively small amounts. Except for fuel, for which a price increase might lead to an increase in public transport fares, no further changes to administered prices are expected during the remainder of 2002.

4.3 The introduction of VAT in July has had a significant impact on headline inflation, which rose sharply to 8.8 percent from the June level of 5.9 percent. The increase of 3.2 percent in prices between June and July compared to an average monthly increase of 0.5 percent over the previous twelve months provides evidence to conclude that the higher than trend increase was largely due to the introduction of VAT. Nevertheless, the initial impact of VAT on prices was at the lower end of expectations. Although there may still be further tax-related price changes over the next several months, it is likely that the bulk of the VAT pass-through has already occurred. It is also possible that some of any further tax effects could be offset by adjustments to earlier increases resulting from competitive pressures, particularly in instances where the tax may have been inappropriately applied.

(b) External Factors

4.4 The global economy has recovered somewhat after last year's slowdown. However, initial forecasts of a robust recovery are likely to be revised downwards in the light of more recent disappointing growth rates in the USA, the euro zone and Japan. Slow growth will also act to contain possible inflationary pressures. While the price of oil has stabilized, there are risks that it may rise as a result of any conflict in the Middle East, and this could lead to a hike in inflation. For the SDR countries, inflation is forecast to be 1.4 percent in the second half of the year and 1.2 percent for the whole year.

4.5 In South Africa, it is expected that inflation will peak at just over 10 percent in the third quarter of the year and start declining thereafter, to around 9 percent by the end of the year, due to the impact of monetary policy tightening and the recovery of the rand,

5. MONETARY POLICY STANCE IN THE SECOND HALF OF 2002

5.1 The 2002 Monetary Policy Statement set a target range of 4–6 percent for Botswana inflation necessary to maintain real effective exchange rate stability. The target

range was based on forecast weighted average inflation of 5.1 percent for trading partner countries. As at the end of June 2002, the weighted average inflation for trading partner countries was 6.3 percent while the revised forecast for the year is 6.5 percent. While both the actual outturn and the revised forecasts would imply an upward revision of the target range of inflation consistent with real exchange rate stability, there are strong reasons to keep it at its current level for the remainder of the year. The first is that the principal reason for the upward revision of the forecast is higher inflation in South Africa, and, as noted earlier, the increase is expected to be short-lived given the recovery of the rand and the commitment of the authorities to eventually achieve prescribed targets. A further reason for maintaining the current desired range is that lower inflation in Botswana compared to trading partner countries will help to reverse the undesirable appreciation of the real exchange rate that occurred in 2001.

5.2 The Bank will, therefore, maintain the target range of 4–6 percent stated in the 2002 Monetary Policy Statement while the range for the growth rate of credit to the private sector that is compatible with achieving this inflation outcome is also maintained at 12.5 to 14.5 percent.

5.3 As a result of the July increase in inflation following the introduction of VAT, inflation is currently above the upper end of the target range. However, this will be a one-off, temporary rise in the inflation rate as long as incomes, in both the public and private sector, are not adjusted upwards to compensate for this increase in taxes. In these circumstances, where the underlying rate of inflation (i.e., excluding the tax effect) has not risen, a monetary policy response is not needed.

6. Summary and Conclusions

6.1 Inflation has generally been stable during the first half of 2002 and was lower than in 2001. However, inflation benefited mostly from lower cost increases for imports while prices of domestic tradeables accelerated, although this appears to be largely due to the rise in the cost of cereal products, reflecting the shortage of grains in the region and international price trends rather than domestic demand pressures.

6.2 The outlook is that inflation in the major industrial economies is likely to remain low and stable for the rest of the year. Nevertheless, higher South African inflation is likely to result in a rise in imported inflation. There is also continuing uncertainty about oil prices in light of the ongoing conflict in the Middle East. Domestically, inflationary pressures are likely to remain as a result of the higher than desirable rates of growth in both government spending and commercial bank credit, as well as the possible second round effects of the introduction of VAT, although these may be offset to some extent by the lower disposable incomes that will result from VAT.

6.3 In the circumstances, the Bank will continue to monitor inflation trends very closely, especially over the coming months, for any signs that the underlying rate of inflation is increasing, either as a result of the introduction of VAT or from increasing demand pressures. The task for the Bank is to ensure that the stance of monetary policy is appropriate to maintaining low and stable inflation in both the short and medium term.

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Legal Reforms in The Botswana Payments System and Implications for Risk Management

Oabile Mabusa[1]

INTRODUCTION

The role of the payments system (see Box 1) in the efficient and reliable operation of financial systems is receiving increasing attention that underlies its importance in global economies. Until recently, rules governing the transmission of payments from the time a payer initiates a transfer instruction to the time the receiving counterparty gains beneficial use of the transferred value did not receive close attention and supervision in financial markets around the world. Consequently, the 'assets in transit' were presumed to be inherently safe from the point of transfer initiation to the point of final delivery. This notion, however, proved to be wrong in 1974, when the Herstadt bank collapsed in Germany, resulting in the loss of transfers received from initiating counterparties but yet undelivered.

BOX 1 : Payment system – a definition:
A payment system is a set of instruments, legal arrangements, banking procedures and, typically, interbank funds transfer systems that ensure the circulation of money in an economy. Payment system covers the whole process from initiating a payment transaction, processing the transaction throughout to its final settlement.

Following the Herstadt episode, the Bank for International Settlements (BIS) undertook comprehensive studies designed to identify international payments system risks which could inhibit the smooth and efficient execution of payment transfers among counterparties. The studies outlined the strategies necessary to remove or mitigate such risks, as indicated by the *Lumfalussy Guidelines,* and the BIS *Core Principles for Systemically Important Payment Systems.* The Core Principles have become the de-facto reference source for central banks in an effort to reform and modernise their payments systems. At an international level, the BIS studies have influenced the development of the Continuous Linked Settlement initiative (see Box 2) whose aim is to reduce the risks associated with foreign exchange payments through real-time settlement.

BACKGROUND

Like many developing countries, Botswana embarked on a payments system reform and modernisation programme fairly recently, adopting a structured approach. The country has developed a strategic vision, identifying existing strengths and weaknesses, opportunities and constraints in the domestic payments system. Using the BIS Core Principles as a best-practice benchmark, other country models were also reviewed to determine the desirable and practical characteristics of the country's future payments system. Both of these culminated in the production of the Botswana *National Payments System Framework and Strategy* document, which illustrates the objectives of the reform and modernisation process and serves as the blueprint for the future National Payments System.[3]

BOX 2: Continuous Linked Settlement (CLS)
a system for continuous link or real-time, intra-day-settlement of multi-currency transactions. The service will be provided by the New York based CLS Bank. Payment instructions carried out by the system, which is still undergoing development, will be undertaken via SWIFT FIN or IP networks.[2] The primary objective of the CLS Bank is to remove the timing mismatch between cross-currency payments and settlement.

Member banks (who could be central banks of various countries) will interface with the CLS Bank through their Real-Time Gross Settlement systems. Upon carrying out the payment instructions, the CLS Bank will advise member banks of their net obligations in each currency. When the obligations are met, CLS will pay out net long currency positions to members. CLS will also provide real-time information to member banks to facilitate reconciliation.

The framework and strategy document identifies the pressing need to develop effective payments system legislation as one of the fundamental requirements in the payments system reform and modernisation programme. The urgency of legal reform arises from the absence of effective legislation by which the central bank can regulate payments system activity to avoid systemic risks triggered by the payments system. In a monetary regime where the central bank employs indirect tools for monetary policy, the efficiency of the payments system can directly and significantly impact on the efficiency of monetary policy and financial system stability. An inefficient payments system can contribute to delays in the transmission of monetary policy signals through the economy, resulting in undesirable economic shocks, both domestically and across borders. The paper discusses the essential characteristics of the Botswana payments system legal environment and identifies key risks and measures to reduce them in the framework for the future Botswana National Payments System.

LEGAL RISKS IN THE CURRENT PAYMENTS SYSTEM

Legal risks in a payments system can manifest themselves in a number of forms. The principle of legal risk stems from the unenforceability of legal agreements, which may

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[2] SWIFT is the acronym for the Society for Worldwide Financial Telecommunications. SWIFT FIN refers to SWIFT's software solution for the exchange of interbank payment messages. IP or Internet Protocol refers to the arrangements for communicating messages over the Internet.

[3] The National Payments System Framework and Strategy document is available on the Bank of Botswana website (www.bankofbotswana.bw).

arise from outdated, inadequate or conflicting legal and legislative provisions. Such would be the case, for instance, where a correspondent bank becomes insolvent after receiving payment from a counterparty to a trade deal, but before transferring and providing final value to the receiving counterparty. Unless the domicile legislation of the correspondent expressly protects the rights of the receipient in this case, the receiving counterparty may never receive value. The absence of a clear and enforceable legal framework to support payments system activity in a country represents a fundamental flaw and a potential major source of risk. It affects the ability of counterparties to conduct trade in a secure and confident manner, with the expectation that the payments system will undertake the safe delivery of their funds with certainty, once the payment instructions have been issued. Transacting parties may also worry when domestic legislation does not explicitly guarantee final delivery (as is the case in Botswana) of any payments that have been submitted into the payments system. Highlighted below are some specific areas that constitute legal risk within the domestic payments system legal environment.

(a) Role of the Central Bank

The central bank's role in the payments system is defined by the provisions of Section 42 of the Bank of Botswana Act 1996,[4] which gives the Bank the powers to *'...in conjunction with financial institutions, organise facilities for the clearing of cheques and other instruments for effecting payments.'* The Bank of Botswana operates a clearing house, based on rules and procedures that are mutually agreed by the participants in the clearing system (i.e., Bank of Botswana and authorised financial institutions). Under the clearing house rules, the Bank of Botswana is mandated to provide netting (see Box 3) services. Despite the increasing significance of both the securities and retail payment sectors of the financial system, the central bank has no direct legal oversight mandate over the provision of payment services in these sectors. Delays in the delivery of scrip in the securities market result in the transfer of cheque payments long before the scrip is delivered, thus exposing the scrip buyers to risk.

BOX 3: Netting – a definition

Netting is the process by which payment obligations between two or more parties are summed up and outgoing payments offset against incoming payments, to reach a single payment obligation payable by the participant in a net debit position.

(b) Legal Basis of Clearing House

Apart from the general provisions in the Bank of Botswana Act and the conventional netting practice established through the clearing house rules, the practice of netting or the off-setting of payment obligations does not appear to be founded on a clear legal basis. In effect, this situation could expose the Bank of Botswana to possible litigation by parties whose payments may fail due to the effects of netting and not necessarily because the debtor did not have sufficient funds to meet specific payments.

(c) Unwinding of Clearing

There is no clear legal basis, under the existing payments system environment, upon which the Bank of Botswana could intervene in the payments system and unwind payments (that is, roll back netted payments to restore positions prior to netting) in order to avert systemic disruption and crisis. This is a critical stability function of the central bank, which can have far reaching consequences for the financial system and must, therefore, be enshrined in law. Clearing operations can experience temporary stresses or shocks of a lesser magnitude than what would be considered to constitute a threat to overall financial system integrity. This may be the case, for example, where a single participant in the clearing process is unable to meet its settlement obligations for the day. Ideally, it is necessary that appropriate rules and procedures should be in place for the orderly management and withdrawal of the defaulting participant. Neither the Bank of Botswana Act nor the clearing house rules contain the necessary mandate to enable the orderly unwinding of net settlement transfers. Technically, this situation could result in the inability of the clearing house to rescue a financially distressed participant from the clearing system and restore normalcy.

(d) Liquidation and Clearing Effect

It has been explained that the netting process lacks a solid legal foundation, and that the central bank does not have the legal jurisdiction to unwind settled payments. Furthermore, the finality of payments made through the clearing system does not appear to be protected in law. Therefore, any unsettled claims on an insolvent participant may never be honoured because they are likely to immediately fall under the jurisdiction of the liquidator. Insomuch as there are no clearing house loss sharing arrangements in Botswana, even where the arrangements and procedures exist, they can create crippling exposures to the remaining participants as they absorb the liabilities of the collapsing member. In extreme cases, this could trigger financial contagion which could ultimately lead to the failure of the financial system. In their current form, the clearing house rules do not make any provision for the absorption of the clearing liabilities of an insolvent participant by the surviving clearing participants.

CREDIT RISK

Credit risk conditions arise as a result of the failure or liquidation of a counterparty, rendering it incapable of meeting some or all of its payment obligations when due or anytime thereafter. While the probability of total loss of value is low whenever credit risk exposures exist, the likelihood of loss cannot be entirely ruled out. Participants in the clearing and settlement system settle their clearing obligations across central bank accounts at the end of each clearing day, at which time net payment obligations are determined by the clearing house at the Bank of Botswana. By calculating net clearing obligations only once

[4] The Bank of Botswana Act is available on the Bank of Botswana website.

at the end of the day, the central bank implicitly provides unsecured and interest-free intra-day credit to the clearing banks, thereby exposing itself to credit risk. The cumulative value of these intra-day exposures by all participants in the clearing system can reach substantial levels on any average day, and can increase the Bank's exposures.

Settlement banks face credit risks in the payments system when they avail uncleared funds to their customers before receiving final value from the paying banks. In effect, by doing this, the banks take a risk on the basis of customer integrity. However, this does not remove the risk of non-receipt of payment. By extending limitless intra-day overdraft facilities to clearing banks, the Bank of Botswana also bears part of this credit risk, as the central bank may not be able to recover the full value of its intra-day advances to settlement banks in case of failure. In most of the cases, intra-day overdrafts significantly exceed the statutory reserve balances, which can be theoretically regarded as a proxy for collateral (it should be noted, however, that reserve balances do not form part of clearing balances in the Botswana clearing and settlement system).

LIQUIDITY RISK

A four-day clearing cycle generally applies in Botswana for debit instruments submitted to the clearing house, from the time of submission into the clearing process to the time of final settlement or transfer of value. Long clearing cycles contribute to the accumulation of large levels of float within the payments system and this is considered as an undesirable sterilisation of funds from a central bank point of view.

The current deferred net settlement arrangement effectively means that payments are accepted on trust until funds have been made available. Up until final funds are transferred, the receiving bank faces the risk that the paying bank may not be able to provide funds in settlement of its obligations. The inability of a participant in the payments system to settle a payment instruction when funds are due, or at any time in the future, gives rise to risks in the payments system. The nature of such risks may be temporary – such as in the case where the paying participant experiences a temporarily shortage of liquid funds – or they could be permanent, in the case where the paying participant becomes insolvent before honouring its obligations. In the short-term, the receiver faces a liquidity risk when the paying bank is unable to meet its net settlement obligations, and an opportunity cost during the period when the funds remain unpaid. In the longer term, the receiver faces the probability of losing the full face value of the payment due.

OPERATIONAL RISK

Temporary disruptions in the functioning of critical components of the payments system give rise to operational risk. The risk increases with the amount of time it takes to recover the system and roll it back to normal operation. The Botswana payments system currently is largely comprised of manual operations and, as with most manual systems, provides ample opportunity for the occurance of human errors and omissions and the possible loss of payment instructions and documents. High value transfers in the Botswana payments system are automated, and highly secure, but this does not materially change the risk profile of the payments system due to the risks associated with manual operations. We must acknowledge, however, that manual processes in the domestic payments system have hitherto operated efficiently due to the relatively low volume of transactions.

SYSTEMIC RISK

Systemic risk represents the most far reaching and potentially most disruptive form of risk within any payments system. It is the risk that the failure of a clearing participant in the payments system to honour its settlement obligations to the rest of the participants can affect the liquidity and solvency of other clearing participants. This may trigger a domino-effect which may lead to the collapse of the entire financial system. Settlement failure can also derive from reasons of a technical nature, such as inadequacies and inconsistencies in law as discussed above.

In spite of the prevailing legal environment, the Bank of Botswana, in its pursuit of financial system stability and reliability objectives, utilises a number of strategies to reduce the incidence of risk in the payments system, particularly systemic risk. These strategies, which are outlined below, are aimed at preventing the collapse of an otherwise financially sound financial institution due to transitory liquidity shortfalls.

(a) Collateralised Loans

A clearing bank which finds itself in a net debit position at the end of a clearing day, can obtain overnight funds from the central bank, against its assets that are held by the central bank to cover its shortfall until the next clearing day. This facility, which is called the Secured Lending Facility (SLF), is based on a legal agreement entered into between the Bank of Botswana and each clearing bank. Overnight overdrafts are typically cleared at the first opportunity the next day to enable the institution to perform other trading activities, although technically, the overdraft could be left to extend until the end of the next clearing day. The price tag (interest rate) on overnight overdrafts[5] (currently at the rate of 50 percent) is designed to discourage clearing banks to be too dependent on the facility.

(b) Lending in the Repo Market

Clearing banks experiencing a shortfall can also trade their securities in the primary market to raise funds. This is a secure form of funding because the collateral used, being Bank of Botswana Certificates, is highly secure and liquid.

[5] Currently the interest rate is set at the Bank Rate plus six per cent or, in the event that a bank exceeds its agreed quota, at 50 percent.

MAIN FEATURES OF THE DRAFT LEGAL FRAMEWORK

In view of the above risks and other issues compromising the integrity of the domestic payments system, the country has prepared draft payments system legislation (the National Clearance and Settlement Systems Bill), which will comprehensively address the risks. This new law will provide for transfer certainty and finality by guaranteeing finality of transfers, which are being processed through the clearing and settlement system. In general, payment transfers within the clearing and settlement system will be insulated and, therefore, not be subject to liquidation orders.

The draft legislation that has been drawn to regulate the Botswana payments system is designed to create an appropriate environment within which the identified risks could either be eliminated or properly managed. This will be apparent in the following highlights, which serve to illustrate some of the important provisions of the legislation.

Central bank empowerment: The draft National Clearance and Settlement Systems legislation will provide the central bank with the powers to oversee the overall payments system activity, license payment service providers and/or operators in the payments market and also approve the rules and procedures for their operation.

Payment finality: Under the new draft legislation, finality of payments processed within the clearing and settlement system will be protected in law. This will provide assurance to both national and international counterparties conducting business with Botswana institutions and companies that any payments made through the Botswana payments system in their favour will be secure.

Service providers broadly defined: Participation in the payment service market will be broadened to extend beyond the traditional banking institutions, to include brokers and non-bank clearing agents. In addition to providing an effective regulatory framework for the operation of the payments system under the auspices of the Bank of Botswana, the proposed Act will create an enabling environment for self-regulation by participants in the payments system.

Transparent conditions for recognition and management: Conditions or criteria for the recognition or non-recognition of clearance and settlement systems (i.e., licensing and termination of clearance and settlement systems) by the central bank are explicitly spelt out in the new legislation, thus providing clarity on compliance requirements. The law defines the reporting obligations of payment service providers to the central bank. The legislation also contains adequate procedures for conflict management and resolution between and among payments system participants. A secondary benefit of this provision is the legal assurance it gives to the rest of the participants that the central bank will not unfairly exploit its role as the regulator and overseer of the payments system.

Protection against zero-hour zone rule: To protect counterparties against the undesired effects of liquidation orders (the zero-hour zone rule – see Box 4), the draft legislation protects and insulates payments that have been cleared within the payments system from appropriation by a liquidator.

BOX 4: Zero hour zone rule

Some bankruptcy legislations contain a rule that permits a pre-dating of the effectiveness of an insolvency order to the midnight before the bankruptcy court order was made. This rule is generally referred to as the 'zero hour zone'. The zero hour zone rule jeopardises the payments system in that payments which may have been settled after midnight would be subjected to the effects of liquidation and may have to be unwound.

Legislations supporting Real Time Gross Settlement (RTGS) systems generally provide for finality and irrevocability of settlements. Consequently, payments cannot be unwound in an RTGS system if a participant were to fail after having made payments earlier in the day.

Unpaid cheques and truncation (see Box 5): Other general but important provisions within the draft legislation include a prohibition against the drawing of a cheque with insufficient funds in one's account. The objective of this clause is to introduce customer confidence in the reliability of cheques as a payment instrument. A clause recognising electronic entries, including computer generated reports, electronic images and microfilm, as acceptable evidence in courts of law lends support for the planned adoption of image processing, leading to the eventual use of cheque truncation.

BOX 5: Truncation – a definition

Truncation is a procedure intended to reduce or eliminate the movement of physical paper payment instruments within the banking system. Physical cheques are replaced by electronic records containing the required content for further processing of the underlying payment instructions.

CONCLUSION

It is quite apparent, from the above discussion, that development of the Botswana payments system constitutes a major challenge for the central bank. The National Clearance and Settlement Systems legislation and other reforms being undertaken by the Bank of Botswana, will not entirely eliminate all risks. The new law will serve to provide an enabling environment under which the central bank will have the necessary legal backing to institute further reforms and oversight of payments processes and procedures, leading to the establishment of a robust and reliable payments system. Other risk management and containment strategies that are to be adopted by the Bank of Botswana in support of the national payments system reform and modernisation process are outlined in the National Payments System Framework and Strategy document.

The Application of VAT in Botswana:Considerations of Consumer and Business Equity

Matthew Wright[1]

INTRODUCTION

In the 1999 Budget Speech it was announced that value added tax (VAT) would be introduced in Botswana in 2001 (Government of Botswana, 1999). The intervening two-year period was to allow for the introduction of legislation, necessary reorganisation and training of public officers, and sensitisation of the business community to the requirements of the tax. This period was subsequently extended by a further year, and the tax was finally introduced on 1 July 2002.

By its nature VAT is an inclusive tax. Its attractive features – such as non-distortion and self-policing – depend in large part on bringing the bulk of goods and services in the economy within the tax net. Nevertheless, this does not make it immune from calls for special treatment. These arise, inevitably, with the advent of a new tax. Examples of this are found within the Southern African region. When South Africa introduced VAT in 1991 it was virtually fully inclusive. But by 1993 nineteen food commodities were exempted; and this was despite the parallel introduction of a National Nutritional and Social Development Programmer designed to facilitate food transfers to the poor (Alderman and del Nino, 1999). In Namibia, which also had a programme for introducing VAT to replace a sales tax, in early 2000 there were pressures on the government to grant concessions, especially on foodstuffs.[2]

In Botswana too, VAT replaced a sales tax, first introduced in 1989. While its coverage was gradually expanded during the 1990s, this tax continued to exclude many goods and services and, frequently, the final stages in the production chain. Thus, with the introduction of VAT, many products and types of business are subject to indirect tax for the first time. In such a situation, that wide-ranging requests for concessionary treatment were (and continue to be) made, both in the build up and subsequent to its introduction, is not surprising.

Several reasons can be advanced for special treatment under VAT. These are based, variously, on questions of practicality, economic efficiency, encouraging 'desirable' forms of behaviour, and of fairness. It is the last of these that is the central focus here. Issues of equity are of great concern in Botswana where, despite rapid growth in real income levels, the income distribution remains highly skewed and a large proportion of households continue to live in poverty.

Equity considerations are examined here from the point of view of both the producer and the consumer. The implications of VAT for consumer equity are then modelled more formally. The framework used takes into account data limitations and emphasises an equity-based alternative to VAT concessions, which is using the revenues collected in part to provide compensating income transfers. The basic data source is survey information on household expenditure patterns by income level. Relevant experience from other countries is also drawn upon.

The essential view that emerges is that, while equity concerns are in many instances valid, they are not best dealt with through weakening the universality of VAT. This harms the overall integrity of the tax, with consequences for efficiency. But, more importantly perhaps, VAT concessions are also inefficient in the pursuit of their own objectives. They cannot easily discriminate between the incomes of the various purchasers of the same good. Because of this it is generally preferable to collect the tax and then use the resulting revenue for well-designed programmes of social support. The wide disparities of income in Botswana serve to reinforce this conclusion rather than to weaken it.

AN OVERVIEW OF VAT[3]

Basic Principles

The decision to introduce VAT in Botswana is in line with the general trend worldwide. This includes the Southern African region: South Africa introduced VAT in 1991, Zambia followed suit in 1995 together with Namibia making a similar move in 2000. Lesotho became committed to its introduction in 2000, and broadening the revenue base is a clear priority in the programme of structural reforms agreed with the IMF (IMF, 2000; Government of Lesotho, 2000); however, implementation has been postponed – most recently to early 2003 – due to shortages of appropriate skilled labour necessary for establishing an effective administrative structure (IMF, 2002). Outside the region, many of the former communist economies have adopted VAT; while among the developed economies, the Goods and Services Tax introduced in Australia from July 2000 is a VAT in all but name. That the United States continues to use a retail sales tax, levied at state level, is increasingly an 'aberration in world perspective' (Bird, 1999).

VAT is an *indirect* tax on consumer spending. That is, while it is consumer spending that is the object of taxation, it is collected indirectly from producers who then pass the tax on to consumers. The total collected is a proportion of the final value of the product to the consumer, which is exactly the same as a one-off sales tax collected at the point of sale to the consumer. But the special feature of VAT is that it is collected in portions at every stage in the production process. The portion collected at each stage is determined by the value added at that stage.

Compared to the single-stage sales tax this would appear to be administratively much more complex. Clearly

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[2] See 'Industry Cries: Value Added 'Trouble" in *The Namibia Economist: 28 January 2000.*

[3] This section provides a brief overview of the principles underlying a VAT system. For a more detailed discussion, the reader is referred to Williams (1996).

the number of taxable transactions is much greater, which *must* have some impact on the costs of administration and compliance. However, set against these costs are the following supposed advantages:

- **Robustness in the revenue base**: by spreading collection over all stages of production, revenue is still collected even if some stages are missed. This is a great weakness of a sales tax, where the final stage of collection (just before consumption) is the hardest to police. In practice this can lead to such a tax being levied at an earlier stage, which reduces the potential revenue take. In Botswana, the sales tax on most goods was levied at the point of import or at the factory gate, leaving the value added to the consumer at the wholesale and retail stages untaxed. A further problem of levying a sales tax 'too early' is that some producers whose output is itself subject to sales tax will make purchases of taxed goods. This leads to 'cascading' or 'tax on tax' in the final consumer price. Under VAT however, such a producer would get a credit for the tax already paid.

  Another aspect of robustness is that, since VAT is inclusive of all consumption, revenue is expected to grow in line with economic activity. This is regardless of whether growth in value added comes at the primary, secondary or tertiary stages of production.

  Robustness is a major attraction of VAT, and it is no coincidence that countries have turned to it at times when the existing revenue base is seen as being shaky. This is clearly the case in instances such as Lesotho, where the projected decline in other revenues – notably from the Southern African Customs Union (SACU) – was instrumental in the decision to introduce VAT. But it is true for Botswana also, where revenues, while currently at healthy levels, are seen as being too dependent on the proceeds from the sale of diamonds.
- **Self-policing**: the way VAT operates involves producers at the next stage claiming a rebate equal to the tax already paid. For this they need documentary evidence from the supplier that the tax has been paid. This means that the purchaser has no interest in colluding with the supplier to avoid payment. This is only not the case when the purchaser is the final consumer (or, equivalently, when the next stage of production is exempt from VAT). But this is no more a burden in terms of enforcement to avoid collusion than with a sales tax. The self-policing nature of VAT has been emphasised as a merit of the tax by, for example, the Lesotho Government when defending the decision to introduce the tax despite the problems of efficiency in the tax administration in Lesotho (Government of Lesotho, 2000) although the subsequent delays in implementation suggest that expectations may have been too sanguine in this respect.
- **Non-Distortion:** since each productive stage pays tax only in proportion to its value added, the problems of internalisation of production and/or cascading that are associated with either a simple turnover tax or an early-stage sales tax should be avoided. More generally, by levying the consumption tax at a uniform rate over all producers, the burden of revenue raising is borne more equally by all.[4] Again this should help minimise distortions arising from the tax.[5]

Of course, these ideals are not realised fully in practice. Choosing a dividing line between production and consumption that is both enforceable and reasonable is difficult. The problem of collusion can arise when transactions are not 'arms length', where the principle of fair market value cannot be presumed to apply. Such problems also arise with other forms of indirect tax on consumption. The additional difficulty with VAT is that, even if the system is working well from the point of view of the tax administration, many more producers will incur costs of compliance than would be the case with a sales tax.[6]

The extent of these problems is likely to be significant, and should be considered carefully in weighing the decision whether to introduce VAT. The sophistication of both the tax administration and the domestic business community is an important factor in assessing the magnitude of compliance costs. Much recent research on VAT has concentrated on problems of effective administration, especially in the former communist 'transition' economies (see Summers and Sunley, 1995; and Baer et al, 1996; and Jack, 1997).

Forms of Special Treatment

Special treatment under VAT can be applied to transactions according to the product involved (necessities or luxuries, for example), the type of purchaser (domestic or foreign), or the type of seller (commercial business or non-profit organisation). Using these distinctions either by themselves or in combination, the number of permutations for various concessions is clearly very large.

Two forms of special treatment are allowed under VAT: *differential rate(s)* and *exemption*. The differential rate can be either concessional or punitive. As an example of the

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4 While VAT is often introduced with the hope of raising additional revenues, its wider spread means, at least in principle, that a *revenue neutral* implementation could have a lower rate than a less-inclusive sales tax, with accompanying potential for price cuts. In the 2000 Namibia Budget Speech, the Minister of Finance attempted to soften the blow of VAT's introduction by expressing the hope that prices of beer would come *down* as VAT replaced a combination of general sales tax and additional sales levy on that product.

5 What *cannot* be avoided is the extent to which the levying of the tax distorts consumer choice away from purchases that would be made in the absence of a consumption tax. However, while not insignificant, this is usually seen as not being a major problem. The uniform nature of VAT should minimise this distortion as much as possible given the need to raise the tax revenue. Moreover, VAT is typically introduced not from a position of no tax but in order to replace some other form of consumption tax where the potential for distortion of consumer choice is clearly much greater.

6 Although the extent to which this really is a disadvantage may be exaggerated. Business practices of proper record keeping and accounting provide the basic inputs for VAT compliance. These are already legal requirements for many businesses; so adapting to VAT should mainly be a learning process. To the extent that businesses do not follow such 'good' practices, the introduction of VAT may be seen as having the advantage of giving them further incentive to do so.

latter, in Namibia a rate of 30 percent compared to the standard rate of 15 percent was introduced for some goods, notably alcoholic beverages. However, the discussion here is limited to the case for concessional rates since this is the usual objective of equity-based arguments. Such a rate is usually a zero rate, but this is not necessarily the case. In the European Union, for example, it has been agreed that the lowest concessional rate is 5 percent compared to the standard rate of 17.5 percent.

The feature of the concessional rate is that, at the stage of production when the good in question is produced *and* sold for final consumption, tax paid at the normal rate on earlier stages of production is refunded to the producer of the final product. Thus tax is passed on to the consumer at the concessional rate. If the concessional rate is zero, then all tax is refunded and none is passed on to the consumer. However, if the same good is sold as an input into further stages of production then tax continues to be levied at the normal rate.[7]

In contrast, VAT exemption does not refund tax paid earlier. Rather, it exempts the value added at that stage of production from being liable to any more tax. Tax already paid is not refundable, and is passed onto the consumer. As such, it is a compromise between accepting the need for special treatment and preserving the revenue base. Sometimes it is the product that is exempt, but it can also be by the type of producer. In the latter case, such producers are relieved of the administrative burden of complying with VAT

In effect, the producer of exempt products is treated as the final consumer. One result of this is that the production chain is broken. So if the good is not subsequently sold to final consumers but to another stage of production, then, even if that stage is not exempt, it cannot claim back tax paid earlier. Clearly this can put exempt producers operating within the production chain at a disadvantage, suggesting immediately that exemption is not unambiguously a benefit. This point will be returned to in the next section when considering questions of business equity.

REASONS FOR SPECIAL TREATMENT: GENERAL CONSIDERATIONS

At the general level, it should be apparent that any concession risks creating an unwanted distortion. Since the tax is an indirect tax on consumption, the aim of a concession is clearly to affect consumption patterns. However, by making this concession indirectly, a distortion will also be created on the production side. There will be an incentive for producers to organise their business activities in a way that takes advantage of the concession and is not solely for the purpose of supplying the consumers in the most efficient manner. For instance, in order to maximise the proportion of value added that is not subject to tax, there is a clear incentive for exempt producers to internalise as much of the production process as possible within their operations, even if this results in operational inefficiencies.

Such simple considerations suggest immediately that there is a *prima facie* case for presuming that the objective of any proposed concession, even if itself legitimate, can be achieved more effectively by other means. The burden of proof should be on showing that this is not so.

This view is supported further in that it is quickly apparent that VAT concessions, however well meaning and apparently straightforward in principle, often cause substantial problems in practice. Consider the following 'clarification' by the South African Revenue Service (SARS) on the general principle that fruit and vegetables sold in their 'natural state' are subject to a zero rate (SARS, 1993):

> Herbs (e.g., parsley), spices (e.g., ginger), green peppers, green mealies, garlic, chillies and mushrooms are all regarded as vegetables and may be supplied at the zero rate unless dried, canned, bottled or cooked. Slices of pumpkin or vegetables cut up as a soup mix (either fresh or frozen) can also be sold at the zero rate, but not when mixed with standard-rated items (e.g., dried spices). The standard rate applies to nuts. White peanuts (if not roasted, salted or mixed with other nuts or raisins) may be sold at the zero rate, the sale of all other nuts is standard-rated. The reason for this is that a peanut is a leguminous plant.

This is sufficient to bring out the general 'flavour' of the problem. The costs of applying concessions increase further as the legal definitions of categories of goods are challenged in the courts. If educational books are zero-rated, what defines 'educational'? If all books are granted the concession, what defines a 'book' – do diaries count, for instance? [8] To counter such problems, in the UK, while it was announced in March 2000 that a lower (5 percent) rate of VAT was to be levied on women's sanitary products, the introduction was not to take place until January 2001. One reason for the delay was to allow the Department of Customs and Excise time to agree workable definitions of such products with relevant parties.

(a) Economic Efficiency

This said, it is generally accepted that exports of goods should not be liable to VAT, and such exports are thus usually zero-rated. This is in accordance with the *destination principle*, which states that indirect tax should be levied in entirety where the good is finally consumed. This is to maximise the extent to which goods' competitiveness is unencumbered by tax. An *origin principle* could also be

[7] As a simple example of why this is appropriate, equity considerations may lead to VAT concessions on certain foodstuffs. If, however, these are not sold directly to consumers but as ingredients for further preparation – to restaurants, for instance – then such treatment might well no longer be justified.

[8] SARS (1993) also reports on a court ruling on the vexed question of whether twin-cab 'bakkies' are predominantly for passenger or goods-transport use. (VAT on company passenger vehicles, outside industries that are based around their use, is often applied on the grounds that they are used more often than not as a form of consumption.) In this case, the court decided on the former, arguing that purchasers of such vehicles knowingly forego potential loading space in return for greater passenger convenience (SARS, 1993). The same issue arose in Namibia in early 2000 with the Namibia Agricultural Union arguing that twin-cab vehicles were 'tools'.

applied, but co-ordination would be more difficult. Such an arrangement would clearly be vulnerable to 'tax competition' by both exporting and importing countries.[9]

Even this distinction between domestically consumed and exported goods can cause problems of administration, since goods labelled for export may be diverted and not in fact leave the country. In South Africa, this led to such a problem that the rules were revised in 1998 so that the zero rate was only applied when the seller was in control of the export. That is, the seller took responsibility for ensuring that the export did take place and, without appropriate evidence, the claimed rebate would not be granted.

This principle can be extended to include services that are exported, though there is less general agreement of the extent to which this should be applied. Enforcement is generally even more difficult. But in Botswana there is a strong case for zero-rating the output of the operators in the International Financial Services Centre (IFSC). Here, the risk of abuse would seem to be very small since IFSC operators are only licensed on condition that their activities are confined to providing services to non-residents. They are to be monitored on this basis by the IFSC regulatory authorities, thus relieving the tax administration of this burden.

(b) Practicality

Various practical reasons also lead to concessions, usually through exemption rather than zero rating. Two are briefly mentioned here. First, the treatment of financial services is made difficult in that many services are not charged for directly, but rather through the margin between interest rates on lending and borrowing. This is problematic because it is difficult to identify implicit cost elements that are built into this margin. The usual solution here is to levy VAT at the standard rate for services that are explicitly charged for, but to exempt from VAT the portion of the business that is based on interest margins.

It is also widely recognised that the administrative costs of levying VAT on 'small' businesses may be prohibitive, both for the tax administrators and the business operators themselves. As well as being practical, exemption of such businesses from paying VAT may be regarded as an application of equity for businesses. This is dealt with in greater detail below in the sub-section on business equity.

(c) Encouraging 'Desirable' Consumption

The use of taxes and/or subsidies to encourage 'desirable' and discourage 'undesirable' behaviour is a common policy objective. This differs from equity considerations in that the income of the consumer is not taken into account. Thus, for example, the costs of private education may be granted exemption, even though the major beneficiaries of fee-paying schools will be from higher income groups.

What is desirable clearly has many dimensions. As a recent example, in the United Kingdom 2000 budget VAT concessions were introduced to encourage people to invest in energy conservation. Education has already been mentioned. Health – the cost of medical prescriptions being exempted, for example – can also be encouraged. But it is also clear that the desirable behaviour argument is difficult to embrace in practice. Many producers will claim that what they produce is good not just for their profit margins but for society also. A good example of this in Botswana was the objections raised by newspapers when sales tax was extended to include them in 1996. It was argued (unsuccessfully) that such taxation went against the right of people to have access to information. The general problem about defining the appropriate practical dividing lines between classes of goods has already been mentioned.

(d) Consumer Equity

It is generally agreed that, whatever else, tax systems should avoid glaring examples of regressivity. Sometimes this is tolerated where the taxable product is very much a matter of choice. Gambling for instance is typically highly regressive in its impact on household incomes, but receives little sympathy as a case for tax concessions. This is to the extent that lotteries are increasingly popular as a means of raising government revenues. Similarly with alcohol and tobacco consumption. But where the product is a basic necessity it is deemed unacceptable. Thus taxes on wage income should fall least hard on the poor, and basic consumer necessities should not be subject to indirect tax. The latter principle has been the major reasons why staple foods have continued to be excluded from the sales tax in Botswana, although how this category is defined has not been made clear.[10] Whether this should continue to be the case under VAT is the subject of the formal analysis in the next section.

One general point that should be noted immediately is that, by its very nature, indirect tax is likely to be an inefficient mechanism for pursuing equity-based goals. This is for the simple reason that it is very difficult to target consumers through concessions on such taxes. In some instances this might be possible. Giving special treatment to organisations – such as charities – which might be expected to filter their clientele, may go some way to achieving this, but the scope for this will generally be limited. More generally, when goods and services are bought and

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[9] While the destination principle is the international standard, the origin principle has been applied in some cases. For example, the parts of the former Soviet Union which formed the Commonwealth of Independent States (CIS) have operated a hybrid system where trade between CIS members is taxed on the origin principle, while other international trade is taxed on the destination principle (Baer *et al*, 1996). This 'restricted origin principle' is suitable for situations where trade between different countries does not pass through effective border controls (Zee, 1995).

[10] The term 'staple foods' first appeared in the 1996 Budget Speech (Government of Botswana, 1996, ¶91). This was to contrast food items that remained free of the sales tax from those that had been included (for the first time) the previous year. The basic distinction is that processed and canned foodstuffs are subject to the tax (Government of Botswana, 1995, ¶131). However, there was no indication of whether this was an adequate criterion for distinguishing necessities; in particular, whether all non-processed food should be treated as such.

sold at arms length and at market prices it is impossible to stop higher income groups benefiting from the same concession.

(e) Business Equity

As noted, giving special treatment to businesses that are classified as small can be characterised in terms of a concession based on business equity. The concession is through exemption since the aim is to remove the burden of complying with VAT regulations that might prove to undermine viability of certain types of business. A concessionary rate would not do this, since the paperwork would be undiminished; such benefits as would arise would be to the consumer.

Exemption for small businesses is usually on the basis of annual turnover. However, there is little consensus on where the boundary lies between small and mainstream businesses. Some countries do not allow any exemption: five out of fifteen member states of the European Union (EU), for example, require all businesses to register for VAT (HMCE, 1998). However, when registration is compulsory smaller businesses may be subject to different rules to make administration easier. This applies in all the EU states just mentioned. In South Africa, as well as there being a turnover threshold for compulsory registration (currently R300 000 (about P190 000) per annum), much larger businesses with turnover of up to R2.5 million (P1.6 million) per annum can apply to be assessed on the basis of payments rather than invoices. This is to take account of the likelihood of primitive accounting systems being used in such businesses.

Choosing an appropriate dividing line is very important. The focus is typically on maintaining it at an appropriate level so that businesses are not disadvantaged by slipping into the tax net. But the opposite side of this is relevant also: that is, the extent to which non-exempt businesses are then faced with 'inequitable competition' from those not encumbered with the tax. Market structure is crucial in determining whether this will be important, and basic considerations suggest that it will be especially relevant for service industries. Some services can be provided very effectively on a small scale. Moreover, the proportion of value added in services in the form of direct labour costs is much higher compared to say the retail sector. This gives them a greater potential for offering lower prices that VAT-paying competitors. For this reason, some countries – Ireland and Greece, for example – set separate (lower) thresholds for services. However, this increases administration problems and risks further distortions.[11]

Also, as already noted, VAT exemption will hurt the competitiveness of small businesses who are suppliers to other businesses since the latter will not be able to reclaim tax paid on their inputs. Furthermore, the exempt supplier will draw attention to its smallness, and may prefer to enhance its image as a mainstream business by choosing to register. As a demonstration that the benefits of exemption are far from clear cut, in 1998 in the UK it was reported that nearly 300 000 businesses operating below the annual turnover threshold of £50 000 had in fact chosen to register, presumably seeing greater advantages in being able to claim back VAT paid on their inputs (HMCE, 1998).

Another problem is that of *allowing* very small businesses to register. The danger is that this will in many instances result in household consumption going untaxed. For this reason, in South Africa since 1999 businesses with an annual turnover of less than R20 000 (P12 000) are not allowed to register, and those that had done so were to be de-registered.

In Botswana, such matters will need to be kept under review. Not enough is known about business structures, especially small-scale business. Other studies have set a notional dividing line between different categories of business. Of particular interest is that between micro enterprises and the rest of business was set an annual turnover of P60 000 per annum in 1996 prices. The next category of 'small' businesses then ranges from P60 000 to P1.5 million, which may be an initial indication that setting a higher threshold could lead to problems of competition. Suitably adjusted for inflation, the P60 000 may be a good starting point for setting a suitable exemption threshold. Such a calculation suggests a figure in the region of P90 000; but in the event the much higher level of P250 000 was chosen, partly to ease the administrative burden by keeping the number of expected registrations to a manageable level.[12]

Perhaps the most important conclusion to draw here is that he implementation of VAT will need to be characterised by flexibility. This is in the context of a dynamic developing economy, and made more necessary to the extent that the process of implementation will itself reveal information about the economic structure. In turn such flexibility will be facilitated by full and cooperative interaction between the tax administration and the business community.

It might be anticipated that exemption of small businesses may serve the equity goal for consumers as well. If the small businesses that are exempt include those whose customers are mainly on low incomes, then this might be presumed to lead to potential price savings for those consumers.

There is some truth in this. For some products, where the proportion of total value added at the exempt level is high, the benefits to the consumer may be substantial. For example, to the extent that low-income families paying housing rental do so mainly through informal arrangements, then they should benefit. Other cases are small-scale, informal vendors of fresh produce brought straight from farms, and the informal market for second-hand clothing.

However, this is not necessarily the case. The potential gains for the consumer from exemption may be quite limited, and only increase as the good in question becomes effectively zero rated. Exemption at the retail stage will not achieve this. As already discussed, it is service indus-

[11] For instance, many services providers also sell associated retail products also (e.g., hairdressers sell hair products).

[12] However, businesses with turnovers below P250 000 were not precluded from registering.

tries and retailers of specialist supplies (i.e., containing a large element of service) where value added at the retail stage is highest, and such goods are unlikely to feature heavily in the shopping patterns of low-income households. Moreover, even when there is some scope for passing on lower prices, whether the producer does pass on what is 'available' to the consumer depends on pricing behaviour and who the competition is. If, for instance, non-exempt retailers are forced to raise their prices for the same products there may be no good reason why the exempt vendor should not follow suit.

EQUITY IN CONSUMPTION: PRINCIPLES AND ANALYTIC FRAMEWORK

For reasons advanced earlier, it seems that exemption is unlikely to be an effective means of achieving equity-based goals. It only offers major advantages to final consumers where the value added at the exempt stage is a large proportion of the total, and even then there may be complications due to market structures. The goods that fit this criterion (typically services and special supplies) are unlikely to be those that feature in the expenditure of low-income groups. Therefore, the following discussion will be limited to the case for concessionary (zero) rating.

In Botswana, the case for giving importance to equity considerations would seem to be strong. Despite many years of rapid growth, income inequalities remain substantial. The extent of these is sometimes exaggerated and the degree of inequality has at least not been increasing and may have been declining over the period since survey data has been available. But the skewness of the income distribution remains significant, with a national Gini coefficient in 1993/94 of 0.54 for total incomes and 0.64 for cash income (Hudson and Wright, 1997).

More important than the distribution of income, a large proportion of the population continues to live in poverty. According to a 1996 report, 38 percent of households, accounting for 47 percent of the population, were poor. Of these, the majority (23 percent of households and 30 percent of the population) were not even able to afford even basic food requirements. This latter group of 'very poor' was predominantly living in rural areas (BIDPA, 1996; Jefferis, 1997). It is generally accepted that poverty reduction in Botswana is a national goal of major importance. According to *Vision 2016* 'By the year 2016, Botswana will have eradicated absolute poverty…', and by 2007 existing poverty rates will have been cut in half (Presidential Task Group, 1997).

The view of equity adopted here is straightforward: the loss in effective spending power for low income groups due to the imposition of a consumption tax should be given a greater weight than a similar loss for higher-income groups. However, it has been argued earlier that it does *not* immediately follow from this that any regressive aspects of an indirect tax are best dealt with by not imposing the tax. This section focuses on this point more formally. The view that regressivity should by itself rule out the impositions of a tax is termed *stand-alone equity*, and is allowed for as a special case. But the central focus is on the potential for compensating income transfers.

To determine whether a good or service should be zero rated for purposes of equity, the following set of principles is adopted:

I: The good must be a necessity;

AND

II: Its zero rating does not go directly against other welfare considerations (*consistency* criterion);

AND

IIIA: The amount of revenue lost to the target group by allowing the concession must be greater than the amount lost to the non-target group;

OR

IIIB: It must be clear that an alternative scheme of direct compensation to the target group is not available;

AND

IV: Any general belief that the system must show concern for equity (*equity* criterion) must be balanced against the implications for the administration and the risk of undermining the integrity of the VAT system (*efficiency* criterion).

Central to this structure is the definition of a necessity. Here, three criteria are adopted, *all* of which must be met. First, in the economic sense where a necessity is defined as a good/service with an income elasticity of demand less than one and, as a result, the proportion of income spent on the good falls as income rises.

Second, the good must be considered a necessity in terms of being included in the basket of goods used to construct the poverty datum line (PDL) in Botswana. This is to bring some independent objectivity into the analysis by drawing a distinction between what people actually do consume and what they *need* to consume. In turn, this basically deals with the consistency criterion: major casualties that fall at this hurdle are alcohol and tobacco, which typically account for large proportions of the spending of low-income households.

Confining the choice of goods in this way may seem to be unduly restrictive. The PDL basket does not include several goods that might, with good reason, be considered basic necessities. Nevertheless, the criterion does seem to be appropriate. The current PDL is based on an extensive study that takes into account both nutritional requirements and more general living conditions (Central Statistics Office, 1991); and it is difficult, as some have tried, to characterise its components as in any way luxurious.[13] Moreover, and equally importantly, the PDL as currently measured has acquired a central status in policy discussion concerning social welfare in Botswana.

The third factor defining a necessity is that the weight of the good in overall expenditure is deemed sufficiently 'large'. The idea here is to weed out goods that are technically necessities by the other two criteria, but where it is 'self-evident' that such a small proportion of household

[13] As a simple example, the PDL goods make no allowance for the equipment with which to eat food – such as cutlery, plates etc. (Central Statistics Office, 1991, p12).

income is used for their purchase that the benefits of any exemption would be outweighed by the administrative costs that would arise. Such costs are unlikely to diminish in proportion to the importance of the good in the consumption basket.

To apply these principles, consider the following framework. It is explicitly very simple, not attempting to incorporate wider general equilibrium aspects. It is designed very much with the availability of data in Botswana in mind.

The population (P) is made up of two groups, target (T) and non-target (N). Total expenditure (E) by P is divided in proportion between N and T, e^N and e^T ($e^N = 1\text{-}e^T$). Within each group, expenditure on good i has a weight, w_i^N and w_i^T, where i is from the subset of goods that form the PDL basket. If the necessary assumptions are made about elasticities – both price and income – such that these weights remain invariant to a price change due to the imposition of a tax, they determine the relative extent of VAT foregone if a concession is given on good i.

Under principle IIIa, this gives the following basic condition that should be met if a VAT concession on i is to be granted:

$$w_i^T > \left(\frac{e^N}{e^T}\right) \cdot w_i^N \qquad (1)$$

or, equivalently:

$$\left(\frac{w_i^T}{w_i^N}\right) > \left(\frac{e^N}{e^T}\right) \qquad (1a)$$

This is a very simple condition based on two ratios. It has the advantage that it can be applied on a good-by-good basis, regardless of the absolute consumption level, the effective rate of VAT, etc.

However, this simplicity comes at a price in terms of the assumptions that are being made about elasticities. What 'necessary assumptions' are needed to meet this condition is discussed in more detail in Appendix A. This derives a more complex alternative to (1a) that takes into account the lowering of real incomes following the imposition of a tax. However, it is argued that in most cases income elasticities will be sufficiently small for it to be safe to use (1a) as a reasonable first approximation.[14]

Changes in relative prices pose a different problem. In particular, there is the possibility that granting a concession on one good can lead to changes in consumption patterns to the extent that revenue for compensation for goods where the concession is not granted is not in fact available. Because of this, situations where goods may be close substitutes must be given careful consideration. The strategy here is to use condition (1) to create a short-list for further consideration. Then, from this, attention is given to such issues.

To the basic condition set out in (1) and (1a) are added the following variables:

- The minimum weight for a good to constitute a necessity is w_{min}^T;
- Two subjective indices, θ and α. These are to take into account considerations of efficiency and equity, respectively. Efficiency is for factors additional to those implied in setting w_{min}^T. As well as costs associated with administering a concession, it can include a concern that w^T may overestimate the extent to which tax will be levied on low income groups on the grounds that they are more likely to use informal retail networks that are not subject to tax. The neutral value for θ is 1, and fall towards zero as efficiency concerns increase. The value of θ_i is allowed to vary across goods to take into account various market structures, and if w^T is a weighted average of subgroups – of urban and rural consumers, for example – then it could vary across these also.

Where there is no concern for equity issues α equals zero. At α =1 the potential for compensating transfers is fully discounted: i.e. stand-alone equity is advocated. This is the maximum value of α that is considered here.[15] In contrast to θ, α reflects a general concern for equity, and is assumed to be equal across all goods and consumer subgroups.

It might be argued further that, as well as being invariant across goods, setting α is an either-or choice rather than a matter of degree. On these grounds it might make more sense to give alpha binary values, 0 or 1. But this is not followed here. The concern for stand-alone equity may in part be a reflection of the perceived inefficiencies of the alternative of transfers, and clearly that is a matter of degree.

A further index could be introduced to take into account the consistency principle. But, for the moment, this is assumed to be taken care of by restricting goods for consideration to the PDL basket.

Using α, the following is derived:

$$\varepsilon = 1 + \alpha\left(\frac{e^N}{e^T} - 1\right)$$
$$1 \le \varepsilon \le \left(\frac{e^N}{e^T}\right) \qquad (2)$$

The purpose of introducing ε is for clarity of thought by preserving the 0 to 1 specification for the base index. This is important since the upper band of ε varies with e^N and

[14] As shown in Appendix A, an equivalent condition to (1) is that $(1+y\sigma)H < 1$, where y is the proportionate difference in household average incomes between N and T, σ is the global income elasticity between the two groups, and H is the population ratio between N and T. Clearly, unless the population of T is sufficient to dominate the greater per capita spending power in N, values of σ will need to be very low to justify a concession, and negative if $H<1$. This does not itself fully rule out changes in weights following the imposition of a tax that would invalidate the condition in (1a). However, this would require local income elasticities that vary from their global counterparts to the point of being abnormal.

[15] In principle, values of α greater than one should indicate that the consumption tax should have progressive features. However, in the framework used here setting the index at such values would not have this effect.

e^T which in turn are determined by the choice of P, its division between T and N and average incomes in the two groups. At the maximum value of ε, equal to the relative expenditure between the two groups, the sole determinant of whether the tax concession is desirable is the relative consumption weights. This ensures that α=1 is equivalent to stand-alone equity.

Combining (1) and (2) results in a more complex condition:

$$\varepsilon \cdot \theta \cdot w_i^T - \left(\frac{e^N}{e^T}\right) \cdot w_i^N > 0 \qquad (3)$$
$$w_i^T \geq w_{min}^t$$

or, equivalently:

$$\varepsilon \cdot \theta \cdot \left(\frac{w_i^T}{w_i^N}\right) > \left(\frac{e^N}{e^T}\right) \qquad (3a)$$

From (3) comes the following:

$$X = \left(\frac{e^N}{e^T}\right) \Big/ \left(\frac{w_i^T}{w_i^N}\right) \qquad (4)$$
$$0 \leq X \leq \left(\frac{e^N}{e^T}\right)$$

and, by combining (4) with (2):

$$\overline{\alpha} = \frac{X - \theta}{\theta\left(\frac{e^N}{e^T} - 1\right)} \qquad (5)$$

Equation (4) defines X, a measure of the extent to which the considerations of equity and efficiency must combine in order for the good to be exactly on the borderline for qualification.[16] From this, equation (5) derives $\overline{\alpha}$, the minimum value α must take for a given combination of X, relative spending powers and θ.

Note that this formulation does not explicitly deal with the 'OR' part of principle III. But this is handled by setting ε equal to its maximum value. This then test goods on the basis of principles I, II and IV only. From this sub-group additional arguments can then be made as to why IIIB should apply.

Note also that equation (1) is set up for the situation where $e^N \geq e^T$. The formulation may not be appropriate where this condition does not hold since non-necessities would get selected on the basis of the overall spending power of low-income groups.[17]

DATA SOURCES

The basic source of information on expenditure patterns in Botswana is the 1993/94 Household Income and Expenditure Survey (HIES) (CSO, 1995). This was the second such national survey.[18] It was based on a sample of 3608 households, of which just under half were living in urban areas. While a large enough sample for many purposes, it should be noted immediately that it is not very large. As a comparison, the 1993 Living Standards and Development Survey (LSDS) in South Africa was based on a sample of about 9 000 households (SALDRU 1994). Consequently, small sample size may impede calculation of certain breakdowns that may in principle be desirable.

From the HIES was derived the Consumer Price Index (CPI) basket that has been used since November 1996. As well as a national basket, this includes sub-indices for urban, urban village and rural categories. The urban index in turn is broken down into four income groups: low, medium-low, medium-high and high. It is the weights given to the various goods in the sub-indices that form the basis of this study.

This data source has several limitations. Most obviously, it is by now quite out of date. Between 1993/94 and 2000/01 real non-mining income per head is estimated to have increased by 27 percent. This will have moved the balance against VAT exemptions almost regardless of how the increased income has been distributed. If it has been distributed evenly or in favour of the low-income groups, the size of the target group will have shrunk. If it has been disproportionately in favour of higher income groups the imbalances in overall spending power will have risen, thus increasing the potential for compensating transfers.

As well as income levels, other characteristics of the population will have been changing over time. These include household sizes and geographical distribution, both of which showed significant changes between the two HIES studies, and it is reasonable to assume a continuation of these trends. Increased urbanisation is likely to be particularly important,[19] as indicated by the initial results of the 2001 population and housing census, which indicate that the total urban population has increased to significantly more than 50 percent of the total (CSO 2002). This is not just a matter of higher incomes prevailing in urban areas, but also the different expenditure patterns that urban lifestyles, with access to wider possibilities for

[16] A value for X of 1 is neutral: for X greater than 1, equity must dominate efficiency for qualification. A value less than one shows the extent to which efficiency must dominate *to prevent* qualification.

[17] This is on the standard definition of a necessity based on income inelasticity of demand. However, on this it might be argued that a less strict definition is in fact appropriate, which takes the overall spending power of low-income groups into account also. On this interpretation, a necessity would be a good that is not sufficiently luxurious (i.e. income elastic) for the non-target group to spend more overall. In this case the formulation used here would continue to be appropriate.

[18] A previous HIES was conducted in 1985/86. Prior to that, in 1974/75 there was a *Rural Income Distribution Survey*. The next HIES is being conducted during 2002 and 2003 with the initial results expected during 2004.

[19] A factor that led to the inclusion of a separate 'urban village' category first in the 1991 Population and Housing Census and subsequently in the 1993/94 HIES.

spending, are likely to encourage.

Another basic problem in using the CPI weights is that they do not provide all the required breakdowns by income groups. Within the urban areas the low-income category is not based directly on any notion of poverty. Rather the P750 per month upper limit is the level below which households had a very high propensity to consume (CSO, 1995, p87). Whether this is appropriate for the purpose here will be discussed further in the next section.

Outside the urban areas, the CPI does not distinguish between low and other income categories. In urban village and rural areas the income distribution is much more concentrated on low-income levels. This means that there is less need for a further breakdown. But in any case, it also means that such a breakdown is unlikely to be feasible. The sample size for the higher income households in these areas is small, something which is aggravated by the total sample, which is smallest for the rural category (25 percent of the total) despite making up more than 50 percent of the estimated population at the time.[20] Potentially this raises serious problems for this study, since the higher earning non-urban households can neither be left out of the reckoning nor treated simplistically.

The CPI is based on the distribution of cash income. This is directly relevant for the purpose here since it is monetary transactions that will form the basis for VAT collection. But using cash income only can distort perceptions of the dividing line between poor and non-poor. For some families, especially those on low incomes, non-cash sources of income, such as production of own produce, remain important.

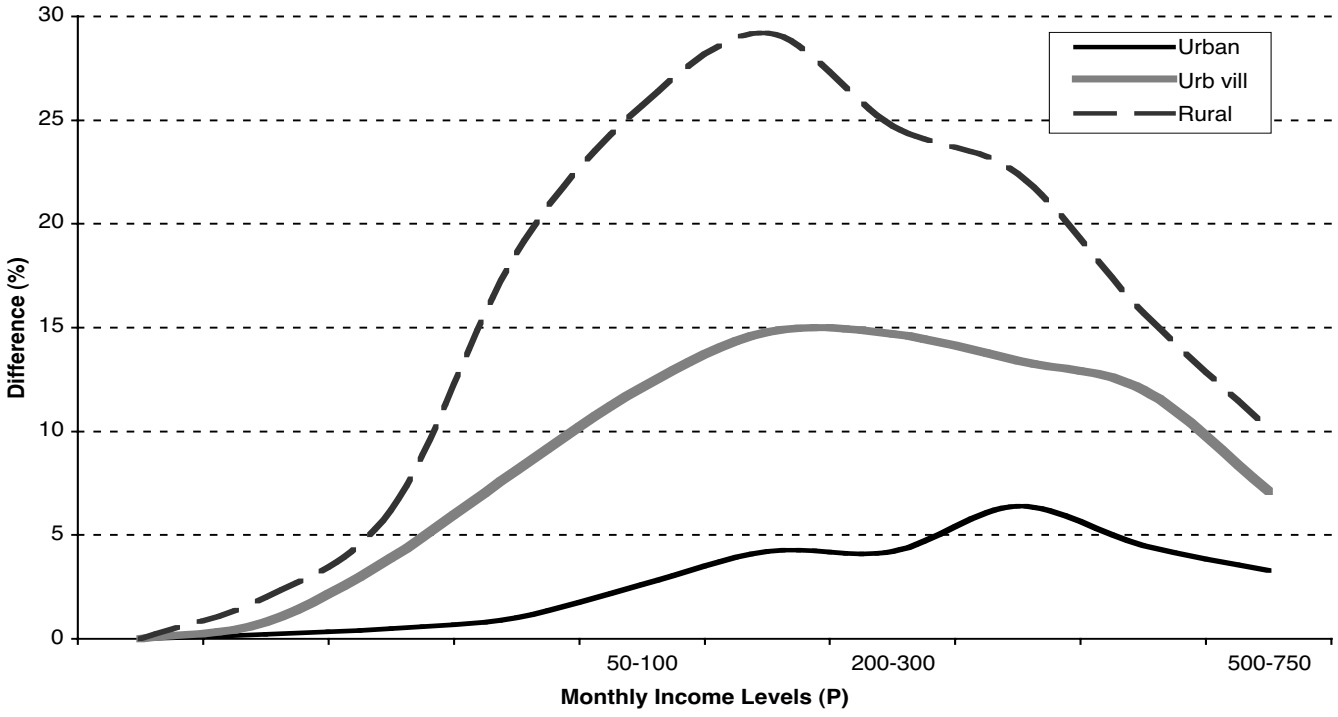
To gauge the extent of this problem, Chart 1 plots the difference in the cumulative income distributions by household between the cash-only and total income measures in the low-income CPI group. Two key points emerge from this. First, the differences are much less in the urban areas, reflecting the expected greater degree of monetisation. At the P750 cut-off, only 3.3 percent more households are included in the cash-only measure. This compares to 7.1 percent in the urban villages and 10.1 percent in rural areas.

Second, it is also apparent that a principal effect of boosting incomes through inclusion of the non-cash component is to move the position of households within the subgroup rather than to move them into a higher income category. In each case the maximum distortion is well below the cut-off point.

Table 1 calculates the extent of these two effects. First, it measures the difference at the cut-off point as a proportion of the cumulative distribution of total income. This indicates the relative impact of using cash income as a proxy for total income. Second, it shows the extent to which the cumulative distortion is dealt with by redistribution within the group.

The previous section noted that assumptions are being made about elasticities for this basic condition of the model to be valid. At the theoretical level this is discussed in more detail in Appendix A. But the problem should also be considered in terms of what the available data can provide.

CHART 1: CUMULATIVE INCOME DISTRIBUTIONS: DIFFERENCE BETWEEN CASH ONLY AND TOTAL INCOME MEASURES (1993/94)



[20] The issue of sample size in this context is not discussed in the HIES. However, that this is a problem is evident. For instance, in rural areas, the survey contains less than 200 observations for income above P750 and P7 500. While this may be sufficient to measure the distribution of incomes, it is hardly enough to estimate a separate consumption basket. In the equivalent urban sub-sample the equivalent subsample is 846, which is nearly as large as the entire rural sample. Moreover, urban households are more homogenous by cash income levels compared to those in non-urban areas where both household composition (see CSO, 1995, table 19) and the extent of reliance on non-cash income sources vary more widely.

TABLE 1: EXTENT OF DISTORTION USING CASH INCOME RATHER THAN TOTAL INCOME DISTRIBUTION

	Distortion at cut-off point (Percent)	Redistribution within group
Urban	6.5	48.4
Urban Village	10.1	47.0
Rural	12.3	54.9

Source: author's calculations based on CSO (1995)

Modelling consumer demand quickly becomes very complex, and often resorts to imposing various conditions. This imposition becomes increasingly great as the availability of data declines. By assuming consumption patterns that satisfy basic conditions of 'rationality', demand systems can be calibrated on limited data with a full set of elasticities.

The HIES includes information on income elasticities. Indeed, the whole basis of this study is that the elasticities implied by the consumption weights across sub-groups are usable estimates. But beyond this, no attempt is made here to apply advanced techniques of demand analysis. The view taken is that the data requirements for such analysis are greater than can be sustained by survey work that has been undertaken in Botswana at this time.[21] Moreover, even if any price elasticities might be derived from the available data, these would only be point elasticities, the relevance of which for the non-marginal effects on relative prices of introducing VAT concessions on certain goods is questionable.

This is in contrast to, for example, Alderman and del Nino (1999). In that study, expenditure data from the South African LSDS is used to construct an 'Almost Ideal Demand System'[22] for a range of commodity groups. Interestingly, this provides some support for the approach used here by concluding that:

> '…the ranking of commodities for VAT exemption generally follows from the ranking of income elasticities; often these are all the data required for a reasonable first approximation.'[23]

The major case where this does not follow is '…when the impact on nutrition is considered…' as an explicit equity consideration. This is not surprising since the data in that study indicate that the weight given to certain products by expenditure can vary significantly from the contribution those products make to nutritional requirements.

APPLYING THE MODEL

Choice of Variables

T: As noted, low income as defined in the CPI for urban households, was not directly linked to any measure of poorness. Nevertheless its use looks reasonable, at least to the extent that it does not seem to keep the target group too small. A monthly income of P750 a month in 1993/94 prices is higher than all the PDLs for that year except the largest household sizes (Jefferis, 1997). In addition, especially in non-urban areas, cash is supplemented by non-cash sources of incomes. In January 2002 prices, P750 is equal to about P1400.

The same level of P750 month is assumed to be applicable for defining *T* in the non-urban areas. Thus the problems of varying significance of non-cash income sources and differing price levels between the different areas are not pursued at this stage.

***e*:** The cash income distribution is appropriate for making this calculation. The HIES provides information on several sub-groups within the chosen *T* and *N*. The household weights for each sub-group are multiplied by the mid-point income to measure relative cash purchasing powers.

***w*:** Matching exactly with the PDL to select the sub-group of eligible goods is not fully possible. But in most important cases a close equivalent can be found. In some cases it is more relevant to match the PDL with a sub-group of CPI goods. The main problem of matching is with household items, many of which have very low weights in the CPI, and are in most cases excluded for that reason. Appendix B lists the PDL items together with their chosen CPI equivalents where the weights of the latter are higher than the minimum.

The main focus is on food items within the PDL basket. There are two reasons for this. First these goods have by far the largest weights. Second, it is foods that, as staple goods, currently do not attract sales tax. So it is on these goods where applying VAT will impact most.

For illustrative purposes, as well as the selected PDL goods some other items are included also. Most prominent among these is chibuku (traditional beer).

From this sub-group of goods the weights from the CPI basket are applied. In principle this is correct, since it is how people actually do spend that will indicate the extent to which tax will be collected or foregone. In practice, however, use of the CPI weights requires the strong assumption that cash income consumption is a good indicator of consumption that will actually come within the tax net. As noted, to the extent that this is not the case non-neutral values of θ may be justified.

A further practical problem is how to assign such

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21 The available data may be sufficient to make useful approximations about the relative spending power and consumption patterns of household groups divided by income. But beyond, this these groups are so diverse to gauge responses to changes in relative prices. As an obvious example, as demonstrated above, large numbers are moved into different income groups when other sources of income are taken into account. Meaningful statistical analysis can be done to differentiate the population and their income by household characteristics (see Jefferis and Kelly, 1998). But this is less demanding on the data than attempting to model (rather than presume) behaviour in response to price changes across large number of goods.

22 The 'AIDS' model developed by Deaton and Muellbauer (1980) before the unfortunate associations with its acronym became so apparent.

23 Note that in the cited reference the term 'exemption' is used generally to zero-rating, rather than the VAT-specific meaning.

weights for non-urban areas, since the weights for urban village and rural households are not broken down by income category. There are several possibilities for dealing with this. One is to assume similar spending patterns across all income groups: i.e. use the same values of w_i across all non-urban households. But this seems highly implausible. An alternative is to apply the urban weight for higher income groups and adjust that for the target group so that the weighted average is equal to the reported non-urban weights. This again seems unsatisfactory, since it implies that all the variation in consumption between urban and non-urban areas is concentrated in the low-income group and that other groups consume with the same patterns as their urban counterparts.

The central assumption used here is that income groups spending weights for the chosen goods vary in the same *proportion* across all areas, with the urban weights being used to calculate these proportions. For simplicity, only a coefficient for the low-medium group is calculated since this is the group into which most of the non-low-income rural and urban village households fall. However, it must be recognised that this also probably goes too far by assuming that consumption possibilities in urban areas are equally available elsewhere. So this assumption is made subject to sensitivity analysis.

$\boldsymbol{w_{min}^{T}}$**:** For the basic scenarios this is set at 0.25 percent. This is arbitrary and may well be too low. But it allows for some interesting cases to be highlighted.

$\boldsymbol{\alpha}$ ***and*** $\boldsymbol{\theta}$**:** To start with these are set at their neutral values (i.e., equal to 0 and 1, respectively).

Based on the above, Table 2 summarises the key variables and their baseline values according to urban only and national populations. The key difference between the two populations is not the calculated average income levels – the ratios are almost exactly the same, but the much larger proportion of households in *T* in the national group.

TABLE 2: SUMMARY OF KEY VARIABLES

	Urban	National
e^N/e^T	7.30	4.27
Average Income		
(Pula/month, 93/94 prices):		
T	363	281
N	2708	2098
Ratio of Average Incomes (N:T)	7.46	7.46
Ratio of households in T and N (H)	50.5/49.5 = 1.02	63.6/36.4 = 1.75

Source: author's calculations

Scenarios

Table 3 Lists the various scenarios that are examined, noting the objective and key assumptions. There are six in total. The first two scenarios maximise the equity index. This both tests the extent to which the selected goods are indeed necessities in the economic sense and shows the equity case for VAT concessions if compensating transfers are not feasible. Scenarios III and IV provide the baseline case. Equity and efficiency concerns are set aside, and candidates for concessionary treatment on the basis of calculated values of $\overline{\alpha}$ (assuming $\theta = 1$).

The focus of two of the scenarios (I and III) on urban areas has three purposes. First, these calculations are based to a greater extent measured data rather than assumptions. Thus, they help to show the sensitivity of assumptions made to construct required data for non-urban areas. Second, it is in the urban areas where most of the VAT will be collected, not just because of higher average cash income levels but because the tax net – both the administration and the extent of eligible business participation – will be more complete. It might, therefore, be argued that this should form the basis for argument about the scope for tax collection and its potential redistribution. Third, use of urban data may be more relevant given the time that has elapsed since the HIES. During that time real incomes have grown and the process of urbanisation has continued, both through population movements and increasingly urban characteristics of previously rural areas.

TABLE 3: SUMMARY OF SCENARIOS

Scenario:		Urban	National
I	Objective Main Assumption Sensitivity	Show necessities $\alpha = 1$	
II	Objective Main Assumption Sensitivity		Show necessities $\alpha = 1$
III	Objective Main Assumption Sensitivity	Urban baseline $\alpha = 0$ $\alpha = 0.2$	
IV	Objective Main Assumption Sensitivity		National baseline $\alpha = 0$ $\alpha = 0.2$
V	Objective Main Assumption Sensitivity		Sensitivity to non-urban weights assumption Non target weights same as in urban areas
VI	Objective Main Assumption Sensitivity		Effect of varying θ $\theta = 0.3$

Scenario V alters the assumption used to derive the non-urban weights. This uses the alternative described above where the urban (low-medium) weight is assigned to the non-target group. Scenario VI sets a non-neutral value of θ.

RESULTS

Table 4 contains the basic information on the first four scenarios. As well as the PDL goods, two selected 'others' are included: rice, and traditional beer.

On the question of whether the goods are necessities, almost all pass this test. Two exceptions are chicken meat (at both the urban and national levels) and blankets (national level only). In both cases this results from the in-

crease in consumption weight between the low and low-medium income groups, which is sufficient to class this good as a luxury even though the weights fall for higher income groups. This weight pattern also occurs with beef group, although not to the same extent and that item is still a necessity. At the national level, tomatoes very narrowly fail the test. This is due to a much lower consumption weight in the rural areas.[24]

In most instances, but by no means all, the weight ratio is higher for the national population. Since the average income ratios are identical for both populations, taken at face value this would imply that such goods are necessities to a greater extent than in urban areas alone. Such a conclusion appears to make sense given the lower average income levels in the national population, and the exceptions to this 'rule' also have plausible explanations along the same lines.[25]

The basic results of scenarios III and IV are very simple. On the assumptions used, *no* good qualifies for a VAT concession. For the urban population this is not surprising. The low-income group comprises just over half of the total households (50.5 percent). Given this, the income elasticity would need to be so low as to be close to being negative (see footnote 14), where richer households spend less not only in proportionate but also in absolute terms as incomes rise. Not even chibuku meets the required ratio, as it is consumed in significant amounts in all but the highest income group.

TABLE 4: SCENARIOS I – IV, BASIC INFORMATION

	Urban Only			National		
Weight ratio required to qualify for VAT concession	**7.30**			**4.27**		
Product:	$w^{T\,1}$	w^T/w^N	$\overline{\alpha}$	$W^{T\,1}$	w^T/w^N	$\overline{\alpha}$
Maize	2.44	3.07	0.22	3.06	2.61	0.19
Sorghum	0.68	1.84	0.47	1.65	1.78	0.43
Bread Flour	0.91	1.96	0.43	1.76	1.78	0.43
All Grains	4.03	2.48	0.31	6.54	2.20	0.29
Rice	*2.98*	*1.70*	*0.52*	*3.11*	*1.41*	*0.62*
All grains plus rice	*7.01*	*2.07*	*0.40*	*9.57*	*1.80*	*0.42*
Beef	3.60	1.37	0.69	2.63	1.05	0.94
Chicken	0.76	0.85	1.20	0.54	0.72	1.52
Potatoes	0.59	1.59	0.57	0.58	1.39	0.63
Cabbage	0.43	2.14	0.38	0.52	1.82	0.52
Tomatoes	0.41	1.23	0.79	0.28	0.97	1.04
Spinach	0.56	1.28	0.75	0.40	1.18	0.80
Fresh milk	1.04	1.47	0.63	1.34	1.43	0.61
Sugar	2.11	2.61	0.28	4.81	2.39	0.24
Tea	0.18	1.99	0.42	0.50	2.07	0.32
Salt	0.34	1.61	0.56	0.39	1.36	0.65
Tinned fish	0.21	1.70	0.52	0.20	1.53	0.20
Children's' clothes[2]	8.39	2.54	0.30	2.90	1.94	0.37
All clothes[2]	3.55	1.63	0.55	7.76	1.30	0.70
Rent	11.28	1.17	0.83	4.81	0.89	1.16
Paraffin	0.65	4.23	0.12	0.52	3.07	0.12
Washing powder	1.04	1.68	0.53	1.12	1.51	0.56
Toilet soap	0.63	1.95	0.43	0.69	1.68	0.47
Blankets	0.34	1.05	0.95	0.41	0.84	1.25
Chibuku	*8.69*	*6.29*	*0.03*	*7.39*	*4.76*	*-0.03*
Key:	*Italics:* Non-PDL Item			Qualifies		Qualifies if α= 0.3

[1] w_{min}^T = 0.25; [2] Includes shoes

Source: author's calculations

In the national population the target group is proportionately larger. This allows for somewhat higher income elasticities. Also, as noted, the reported elasticities are generally lower than in the urban areas. Nonetheless, still no PDL good qualifies. The only qualifier is chibuku, which is not in the PDL basket.

However, this result is not maintained if α is allowed to take a positive value. This seems reasonable since there are bound to be some additional costs of carrying out compensatory redistribution. As illustrated in table 4, by setting α = 0.3 several goods would qualify.

As a group grains now pass the test at the national level. While this is due solely to the importance of maize meal – individually sorghum and bread flour fail the test – the case for treating this as a group is strong due to them being close substitutes. However, the addition of rice (which is not a PDL defined necessity) takes the whole group out of qualification.

Sugar needs a special mention. According to the CPI, it is purchased in very large proportions in the rural areas where, with a CPI weight of 5.79 percent, it is the third largest individual-item weight in the index after urban and rural purchases of traditional beer. This has the effect of raising w^T from 2.11 in urban households to 4.81 nationally. From a nutritional point of view the case for not only sustaining but further encouraging such consumption may not be so strong, however. For South Africa, Alderman and del Nino (1999) also identify sugar as a case where there is a case for concessionary treatment. But the opposite is the conclusion in Hossain (1994), which for Bangladesh suggests targeting sugar – as a luxury – for *additional excise taxes* as a means of achieving equity – an interesting reflection on differing consumer patterns

[24] At this point it is again worth emphasising that the weights here are based on monetary expenditure, which is relevant is assessing the impact of a consumption tax. There is no necessary implication that consumption of tomatoes is less important in rural areas.

[25] These exceptions include beef – albeit very marginally – and chibuku. While this results from the weighting assumptions used (which for meat make the product a luxury in non-urban areas), it seems plausible, reflecting greater reliance on non-cash sources for these products and/or lower average incomes in the target group making their purchase more of a luxury.

among low income groups in various parts of the world.

The effect of changing the assumption about the derivation of non-urban weights (scenario 5) is shown in table 5: the case for VAT concessions for some goods is strengthened while for others it is weakened. The all grains group qualifies at a much lower value being given to α. But note the roles here are reversed, with the result being driven by the eligibility of sorghum and bread flour; maize by itself does not qualify. This is because sorghum and flour are purchased in higher proportions outside the urban areas, and under the alternative assumption used most of this is assigned to the target group. Maize on the other hand is purchased in lower proportions. Sugar and tea now qualify automatically also. Blankets are no longer classified as a non-necessity (although only just). This sensitivity to the assumption made about non-urban weights strengthens further the case for treating grains together as a group. Conversely, the case against a concession for meat is strengthened. This is because it is turned overall into a luxury good. Another case in point here is that of paraffin where setting the non-target weight equal to its urban counterpart increases its importance.

Allowing for a value of θ less that one not surprisingly makes it harder for goods to qualify. For example, under the central assumptions, but with $\theta = 0.8$, the only PDL good to qualify within the $\alpha = 0.3$ band is paraffin (although for the reason just noted it fails now to qualify on the alternative assumption about non-urban weights).

TABLE 5: EFFECT OF CHANGING THE ASSUMPTIONS ABOUT NON-URBAN WEIGHTS

	National (base)			National (alternative)		
Product	w^T	w^T/w^N	$\overline{\alpha}$	w^T	w^T/w^N	$\overline{\alpha}$
Maize	3.06	2.61	0.19	3.17	3.12	0.10
Sorghum	1.65	1.78	0.43	1.93	4.50	-0.02
Bread Flour	1.76	1.78	0.43	2.01	3.61	0.06
All Grains	6.54	2.20	0.29	7.11	3.60	0.06
Rice*	3.11	1.41	0.62	3.16	1.50	0.57
All grains plus rice*	9.57	1.80	0.42	10.27	2.51	0.21
Beef	2.63	1.05	0.94	2.20	0.68	1.62
Chicken	0.54	0.72	1.52	0.42	0.44	2.69
Potatoes	0.58	1.39	0.63	0.58	1.41	0.62
Cabbage	0.52	1.82	0.52	0.55	2.26	0.27
Tomatoes	0.28	0.97	1.04	0.23	0.60	1.89
Spinach	0.40	1.18	0.80	0.34	0.79	1.34
Fresh milk	1.34	1.43	0.61	1.43	1.88	0.39
Sugar	4.81	2.39	0.24	5.39	5.43	-0.07
Tea leaves	0.50	2.07	0.32	0.58	5.68	-0.08
Coffee	0.20	2.24	0.28	0.22	3.16	0.11
Salt	0.39	1.36	0.65	0.40	1.60	0.51
Children's clothes[1]	2.90	1.94	0.37	2.76	1.60	0.51
All clothes[1]	7.76	1.30	0.70	7.54	1.18	0.80
Rent	4.81	0.89	1.16	2.56	0.27	4.45
Paraffin	0.52	3.07	0.12	0.50	2.42	0.23
Washing powder	1.12	1.51	0.56	1.15	1.66	0.48
Toilet soap	0.69	1.68	0.47	0.70	1.84	0.40
Blankets	0.41	0.84	1.25	0.41	1.00	1.00
Chibuku*	7.39	4.76	-0.03	7.22	3.92	0.03
Key:		Luxury good		Qualifies		Qualifies if α= 0.3

*Non PDL item; [1]Includes shoes

Source: author's calculations

IMPLICATIONS OF RESULTS

Following the introduction of VAT in South Africa in 1991, the number of zero-rated goods expanded rapidly to include a wide range of foodstuffs. These are listed in table 6, together with further others that have been proposed.

In Botswana, the gradual extension of the sales tax has led to 'canned and processed foodstuffs' being covered since 1995 (Government of Botswana, 1995). However, on the basis of the criteria used here it would seem to be hard to argue for the wide-ranging exemption of 'staple' foods to be continued. The equity case is far from watertight. Being a necessity is *very far* from being a sufficient condition for goods to qualify. Given the balance of the population and the gap between average incomes income elasticities have to be well below unity even when some preference for stand-alone equity is allowed.

Moreover, the question of undermining the efficiency of the tax must be taken seriously. In large part because of this, the sales tax was introduced very slowly, being applied to only a few goods in the first instance. However, this same logic does not carry through to the implementation of VAT. In that case concessions will increase rather than reduce the administrative burden.

This said, there does seem to be a reasonably robust case for zero-rating basic cereal foodstuffs as a group. As well as the criteria used here, this is backed up by two further considerations. First the large overall weight in the target group's consumption basket. Second, nutritional arguments would tend to amplify this importance further (Alderman and del Nino, 1999).

Paraffin also seems to emerge as a candidate for serious consideration, and makes the valuable point that it is not necessarily only foods that should be considered for targeting. Again this is a similar conclusion to that drawn by Alderman and del Nino (1999) for South Africa. However, in this case nutritional arguments would work against its inclusion as would the weight in the low consumption basket: on a higher setting for w_{min}^T it might not qualify for consideration at all.

The emphasis in the model used here has been on the potential for compensating income transfers. If these are not possible then many more goods would qualify for spe-

TABLE 6: ZERO RATED GOODS IN SOUTH AFRICA

As of 1993	Others proposed
Maize	
Samp	
Mealie	
Dried mealie	
Brown wheaten mealie	
Brown Bread	White bread
	White flour
Dried beans	
Lentils	
Eggs	Egg powder
	Red meat
	White meat
Tinned sardines	Tinned herrings
Fresh milk	
Powdered milk	
Cultured milk	
	Margarine
	Butter
Vegetables	Dehydrated vegetables
	Canned vegetables
Vegetable oil	

Source: Alderman and del Nini (1999)

cial treatment. Apart from the isolated cases where the good is not an economic necessity the only barriers to qualification would be the values assigned to w_{min}^{T} and θ.

In this context it is important to consider the extent to which such transfers might be possible in Botswana. Clearly their introduction is neither cost nor problem free. The difficulties experienced in recent years in South Africa in spending effectively on poverty alleviation programmes even when funds have been budgeted, is indicative of the problems that can arise. The extension of concessions to VAT occurred despite the existence of a parallel programme aimed at providing food for the needy. However, it should be borne in mind that some of the administrative difficulties experienced in South Africa are exceptional. Elsewhere, there have been moves away from VAT concessions towards targeted transfers. For instance, in the United Kingdom, old age pensioners receive direct support for paying their winter fuel bills as an alternative to charging a lower rate of VAT for the whole population.

In relation to this, it has been pointed out that the least costly forms of income transfer are those that are not means tested. This is certainly true: providing a lump sum payment to all households regardless of income would be relatively easy to administer. However, precisely because this form of support is non-targeted, it is also relatively wasteful and would need to be modelled carefully to compare it with the alternative of a VAT concession.[26]

[26] In the framework developed here this can be done using a higher value of α. However it would be better to model the costs of providing a transfer to the whole of P rather than just T more explicitly.

CONCLUSIONS

Income inequalities and poverty in Botswana remain matters of social concern. But from this it should not be concluded that there is automatically a strong case for exempting low-income groups from paying consumption taxes. Since it is inherently difficult to discriminate between income groups for consumption purposes – especially in preventing those on high incomes gaining access to concessions – the potential loss to the tax base is in most cases large compared to savings for those on low incomes. This result is a natural consequence of the very inequalities which are the source of concern.

If there is no possibility of equity concerns being met through income transfers, then the use of tax concessions becomes more relevant. However, the analysis in this paper still remains valid since it emphasises that this is very much a second best approach. If the policy makers are willing to consider equity concerns as relevant then it would be much better look for ways to make such transfers possible rather than undermine the tax base through wide-ranging and administratively costly concessions.

It might be argued that the focus on the potential for compensating income transfers is not relevant to Botswana. If a backward looking view is adopted this argument has some force. Relevant experience from elsewhere also suggest the need for caution. However, looking forward the trend is likely to be towards the introduction of such programmes. *Vision 2016* explicitly calls for the introduction of effective social safety nets (Presidential Task Group, 1997). More generally, as per capita incomes increase, it is to be expected that the role of government will move gradually towards being involved in distributional transfers (Bank of Botswana, 2000, chapter 2). The main purpose is to encourage such a forward-looking approach. This it does by providing a consistent analytic framework that focuses on key issues, namely the definition of a necessity and the alternatives to tax concessions as a way of achieving equity-based objectives.

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