

South African Trade-Offs among Depreciation, Inflation, and Unemployment



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Introduction

South Africa has one of the most unique histories of all the countries in the world, one characterized by years under Apartheid rule where a major part of the country's population was marginalized. This history plays a major role in South Africa's current economic situation, which has been characterized by high levels of inflation and a very high level of unemployment, both of which have persisted for the past several years.

In recent years, South Africa has seen relatively high rates of inflation coupled with a depreciated currency. This has been coupled with somewhat steady growth rates in GDP and an improvement in their current account. South Africa's exchange rate, which depreciated greatly between 1998 and 2002, has had a resurgence in the first quarter of 2003. This paper will investigate the strategies undertaken by the central bank and other actors in the South African economy in the past several years to contribute to these higher levels of inflation and depreciation, and which strategies (if any) played a part in reversing those levels of depreciation. We will also recommend policies that would encourage positive economic trends.

Recent History: Socio-economic policies and the 1996 Rand Crisis

The 1994 installation of the government of South Africa (as headed by the African National Congress) ended a period of apartheid that had created severe unemployment among the African population. Consequently, the government established an initial expansionary policy designed to improve South Africa's economic and social standing. The Reconstruction and Development Programme (RDP) focused primarily on job creation through public works programs such as water supply, sewage works, and road construction, while also attempting to improve housing availability, educational attainment, and other socio-economic indicators. The Growth, Employment and Redistribution Programme (GEAR), established in 1996, however, primarily concentrated on reducing government deficits and inflation while improving the rate of economic growth through privatization.¹ This program was introduced in 1996 in response to the rand crisis.

In the face of major currency speculation and internal governmental division, the rand depreciated rapidly in 1996 and South Africa experienced an exchange rate crisis. In response the Reserve Bank sold off massive amount of its foreign reserves possibly because it believed that this depreciation was a temporary reaction to rumors of divisions within the government. South Africa was again faced with a currency crisis following the Asian Crisis as investors believed that all emerging markets had a similar risk profile and decided against holding the rand.² These crises were followed by increases in the rate of depreciation, and then a gradual reduction in that increase (see Graph 3: Inflation vs. Deprecation).

¹ Knight, Richard, "South Africa: Economic Policy and Development". July 2001. <http://richardknight.homestead.com/files/sisaeconomy.htm>

² Aron, Janine, Elbadawi, Ibrahim, "Reflections on the South African Rand Crisis of 1996 and Policy Consequences". May 1999.

Recent Macroeconomic Performance

Gross Domestic Product

Along the years, starting from 1998 until 2002, GDP (ZAR market prices) has seen steady improvement. In 1998, GDP was 735.5 billion rand and rose to 1,092.3 billion rand in 2002. In addition, real GDP growth has increased. From 1998 to 2002, real GDP growth improved from 0.8 percent to 3 percent. (See Table 1: South Africa Main Economic Indicators.) In other words, real GDP has been growing more quickly since 1998. Some of this growth may be attributable to the GEAR program of reducing inflation and increasing privatization.

Current account

South Africa has seen improvements in its current account since 1995. While deficits rose to over 2 billion US\$ in 1995, these deficits have been falling since 1997 and in 2002, the current account generated a surplus of US\$ 52 million. South Africa's net exports value increased as the international price of gold improved. Although our data is in nominal terms, it is interesting to note that the current account improved as the currency continued to depreciate. (See Graph 1: Current Account vs. Nominal Exchange Rate.) A further investigation of real currency changes follows below.

Monetary policy

The Central Bank has stated that the "maintenance of fiscal stability and the reduction of the inflation rate" is the major monetary policy objective. In 2000, the Central Bank instituted an inflation targeting system that provided rates of acceptable inflation. In 2002, that range fell between 3 and 6 percent. This system is supported by the bank's policy of raising (or lowering) its repurchase rate (which is the rate at which the reserve bank charges banks to borrow from it) to encourage lower (higher) money demand, and consequently affect money supply.

In addition, the bank has established targeted levels of money supply growth. Although in most years since 1994 the actual rates of growth have outpaced the upper limit of those targets, the growth rates have fallen since 1997, to about 7 percent in 2000 (see Graph 5: M3 Money Supply Growth).

Exchange rate

South Africa's central bank adheres to a floating exchange rate regime, but that policy would be more properly referred to as a managed float. While they have no particular exchange rate targets, the bank has intervened recently to reduce foreign currency holdings in the market.³ This intervention has primarily occurred to maintain inflation

³ Garrow, Colen, "Why the Rand's Strong Days Are Numbered," Sunday Times, April 6, 2003.
<http://www.sundaytimes.co.za/2003/04/06/business/columns/columns4.asp>

targets through open market operations. It is possible that these interventions occurred to work through the “signaling channel,” in which the bank demonstrates its desire to maintain the exchange rate to encourage investors to do the same. Despite these interventions, the exchange rate in South Africa has fluctuated since the currency crisis of 1996. As of 1998, the rand was at 5.53 ZAR to the dollar and depreciated to nearly 11 ZAR to the dollar in 2002. However, in the first few months of 2003, the rand appreciated to 7.9 ZAR to the dollar. (See Graph 3: Inflation vs. Depreciation.)

Improved capital inflows, improved international credit ratings, the weakening of the US dollar, and a reduction in risk aversion to emerging markets have all been suggested by the South African Central Bank as rationales for the recent appreciation.⁴ We suspect, however, that this trend may also be explained by the correspondence of inflation rate differentials and exchange rate differentials. This explanation will be offered in further detail below.

Inflation

Over the last several years, South Africa has had a persistently high level of inflation. The main contributors are high food prices. Other factors include increasing energy prices, and increases in the price of domestic services such as medical and education services and water rates.⁵ The South African government’s stated policy of maintaining price stability has not been incredibly successful in maintaining its own targets.

Furthermore, the South African consumer price index has increased by more than the United States index of prices. The Fisher equation:

$$i-i^* = p^e - p^{e*} = (S^e - S^t) / S^t$$

indicates that inflation differentials and exchange rate changes move in the same direction. Inflation and interest rates in South Africa both exceed the levels of the United States, and the rand has depreciated from period to period (see Table 1: South Africa Main Indicators). Consequently, it appears that some of the depreciation of the rand-dollar exchange rate is due to greater inflation in South Africa.

Unemployment

South Africa has one of the highest unemployment rates in the world, with the contributing factors being social as well as economic. The unemployment rate as of March 2003 is 29.7%. The Phillips curve generally suggests that inflation and unemployment have an inverse relationship; an improvement in one area worsens the other. However, our data suggests that inflation and unemployment in South Africa have a positive relationship (see Table 1: South Africa Main Indicators).

⁴ LaRoux, Etienne. “SA Economic Indicators for December 2002,” December, 2002.
<http://www.fnb.co.za/economics/subscriptions/ReadArticle.asp?ID=1087>

⁵ Bolin, Lynn “Monetary Policy Committee details causes of high 2002 CPIX”. March 21, 2003.
http://www.miraculum.com/news/article/news/article_18520.html

Interim Policy Responses

In response to the depreciation of the rand in 1998, the South African Reserve Bank raised the repurchase rate from 14.8 per cent to nearly 22 percent. As the foreign reserves situation began to stabilize in early October 1998, they allowed the repurchase rate to gradually drop to 11.75 per cent in January 2000. As the rand fell again in October 2000, however, the Reserve Bank decided to again increase the repurchase rate to 12%. In 2001 they then decided to cut the repurchase rate

Unemployment and inflation are the primary macroeconomic concerns in South Africa. Although RDP and GEAR have both attempted to reduce unemployment, rates are still at very high levels (see Table 1). Though the South African Reserve bank has set a target of 3% - 6%, they have never been able to achieve this goal and have instead been plagued by high levels of inflation.

The South African Central Bank tries to maintain price stability by keeping the growth in money demand more or less in line with the underlying growth of capacity in the economy.

Policy Options and Recommendations

Conversion of exchange rate system

Several nations suffering difficulties with their monetary policy discipline (such as Argentina) have moved toward a fixed exchange rate system from a floating one. We do not recommend however that South Africa take this approach. With a fixed exchange rate regime, the government would lose its monetary flexibility and the ability to use the exchange rate as an automatic stabilizer.

Permanent Money Supply Contraction

The permanent reduction in money supply fulfills the objective of reducing inflation through the Fisher effect. In the short-run a contractive monetary policy shifts the AA curve further to the left than in a temporary policy. This is due to the fall in expectations with regard to the exchange rate.

In the long run, when prices start to fall, reflecting the effects of a contractionary monetary policy, both DD and AA curves will shift to the right. When domestic prices fall, holding the foreign price and exchange rate constant, the real exchange rate will depreciate, which improves South Africa's current account. By this, the DD curve will shift to the right. Also, the AA curve will be shifted to the right because real money balances increase due to the falling price adjustment. (See Graph 6: Effects of Permanent Monetary Supply Contraction.)⁶

⁶ It should be noted that the level of unemployment in South Africa indicates that it starts at a level of output that is less than that of full employment.

In addition the asset market equilibrium graph describes the effect on the currency. With a decrease in money supply, the M^s curve moves to the left and interest rate increases in the short-run. Given that people expect prices to decrease, the foreign return curves shifts down and the M^s curve and interest rate curve shifts back to their original points. (See Graph 7: Permanent Monetary Supply Contraction: Short-Run and Graph 8: Permanent Monetary Supply Contraction: Long-Run.)

The final result will be an appreciated currency, with output at the same level as the output at the initial point. Since the exchange rate has appreciated, through the Fisher effect equation we can conclude that inflation falls as well (assuming foreign inflation is held constant).

$$\downarrow [p^e] - p^{e*} = [(S^e - S^t) / S^t] \downarrow$$

Another way to observe this behavior is that since prices fall inflation is reduced.

However, this policy fails to affect unemployment.

Temporary Fiscal Policy Expansion

This temporary fiscal policy expansion has the objective of increasing output thus reducing unemployment. We recommend increasing government spending in order to carry out this policy (a fall in taxes will have the same effects).

A temporary increase in government spending will shift the DD curve to the right appreciating the rand and increasing output. Since this is a temporary policy there is no change in exchange rate expectations and therefore the AA curve is intact. In other words, by increasing output South Africa will see a reduction in its level of unemployment. (See Graph 9: Effects of a Temporary Fiscal Policy Expansion.)

The main limitation of this policy is that fiscal expansion will not take effect immediately. Furthermore, South Africa's history has engendered many social factors which work against a reduction in unemployment.

Conclusion

Although the South African government should treat unemployment as a major concern, there are several factors at play that work against fiscal or monetary policy reducing unemployment. A reduction in inflation, on the other hand, is a goal more easily achieved through governmental policies. Consequently, we recommend that the South African government and Central Bank focus on reducing inflation through a permanent reduction in the money supply.

Appendices

Table 1: Main Economic Indicators

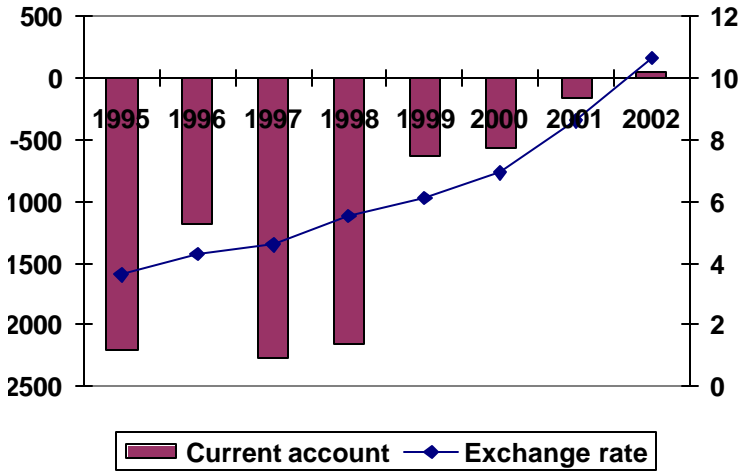
SOUTH AFRICA : MAIN INDICATORS

	1995	1996	1997	1998	1999	2000	2001	2002
Exchange rate	3.63	4.29	4.61	5.53	6.11	6.93	8.61	10.64
Discount rate	15.0%	17.0%	16.0%	19.3%	12.0%	12.0%	9.5%	13.5%
US discount rate	5.3%	5.0%	5.0%	4.5%	5.0%	6.0%	1.3%	0.8%
Inflation	8.8%	7.4%	8.9%	6.9%	5.2%	5.3%	4.8%	9.9%
US inflation	2.8%	2.9%	2.3%	1.6%	2.2%	3.4%	2.8%	1.6%
Current Account (US\$ millions)	-2205	-1180	-2273	-2157	-640	-575	-166	52.9
Exports	30701	30263	30171	29264	28267	31636	30624	NA
Imports	-27404	-27568	-28848	-27208	-24554	-27320	-25677	NA
Foreign Reserves (US\$ millions)	2820	942	4799	4357	6353	6083	6045	6200
GDP at market prices (R bn)	548.1	617.9	685.7	783.9	800.6	888.1	982.9	1092.3
GDP Nominal variation		12.7%	11.0%	14.3%	2.1%	10.9%	10.7%	11.1%
GDP real variation		5.3%	2.0%	7.4%	-3.1%	5.6%	5.9%	1.2%
Fiscal Variables								
Tax Revenues (US\$ millions)	125.5	147.7	162.9	181.7	202.3	211.9	295.9	274
Total Expenditures (US\$ millions)	148.9	176.3	191.1	201.2	217.1	228.4	255.9	305.8

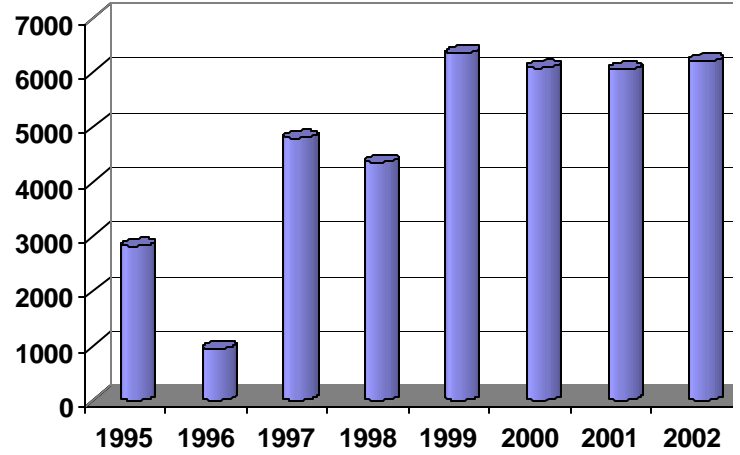
Source : International Monetary Fund : International Financial Statistics
 South Africa Central Bank : Statistics

Graphs 1-4: Current Account vs. Exchange Rate, Foreign Reserves, Inflation vs. Depreciation, and Revenues vs. Expenditure

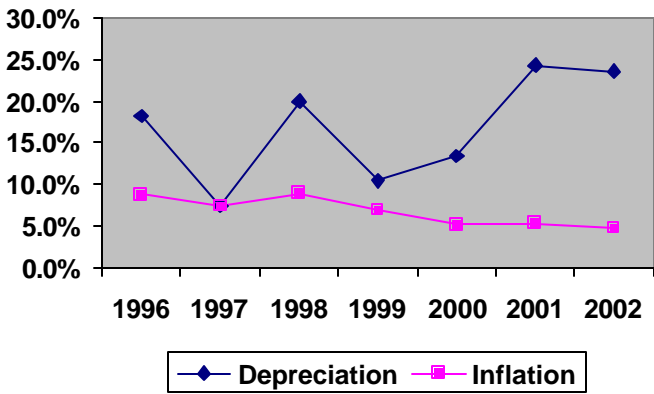
Current Account vs Exchange rate



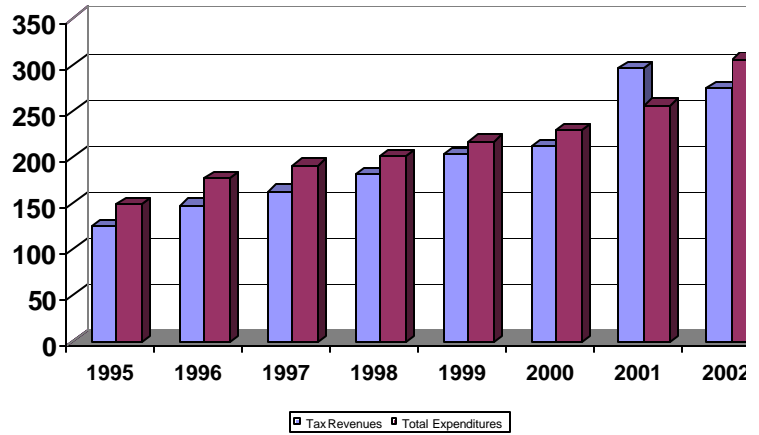
Foreign Reserves (US\$ millions)



Inflation vs Depreciation

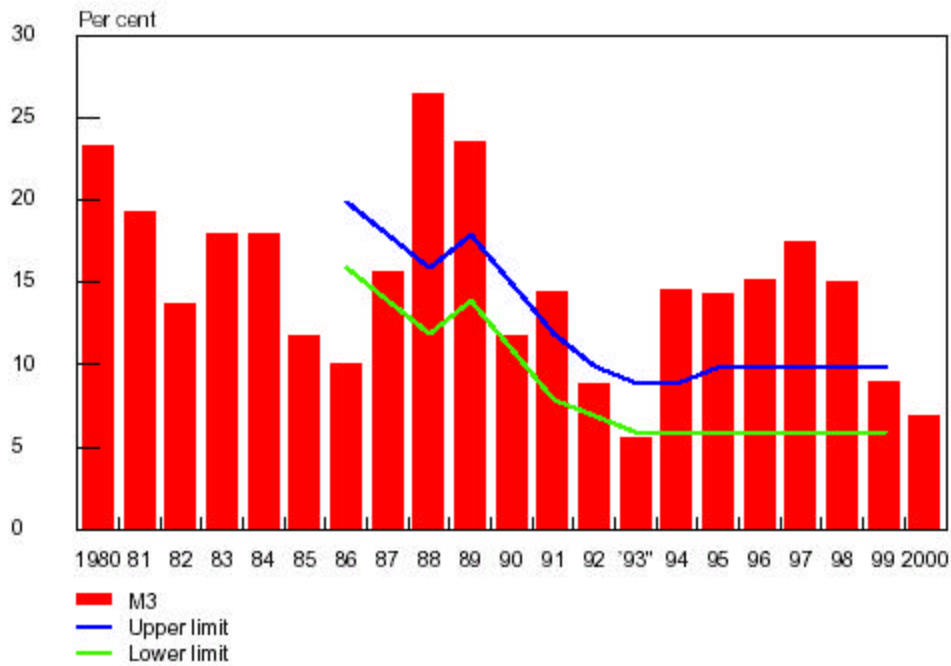


Revenues vs Expenditure



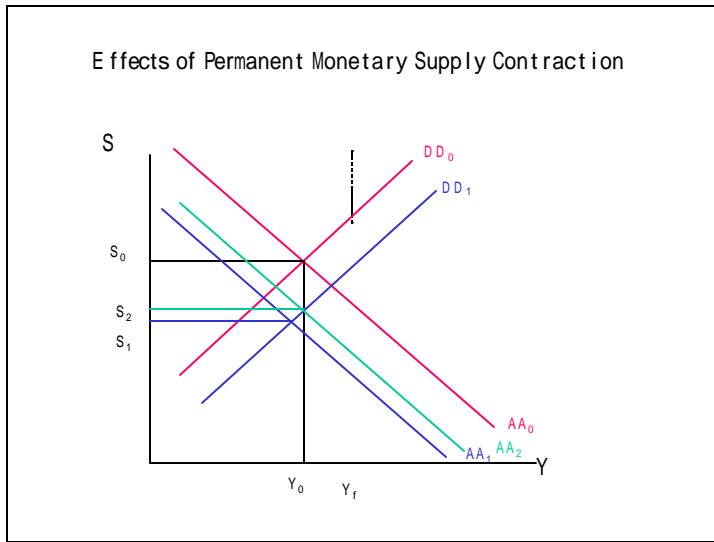
Graph 5: M3 Money Supply Growth and the M3 Target Ranges

Graph 1 M3 money supply growth and the M3 target ranges

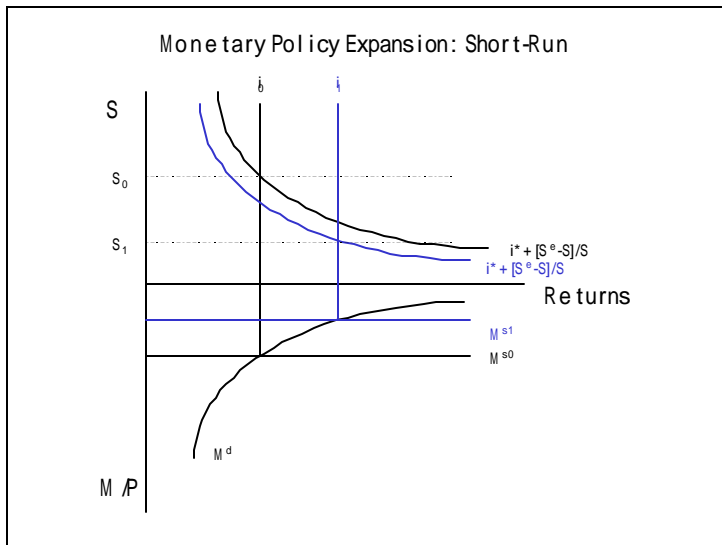


Source: Smal, M.M. and S. de Jager. "The monetary transmission mechanism in South Africa," Occasional Paper No 16, September 2001.

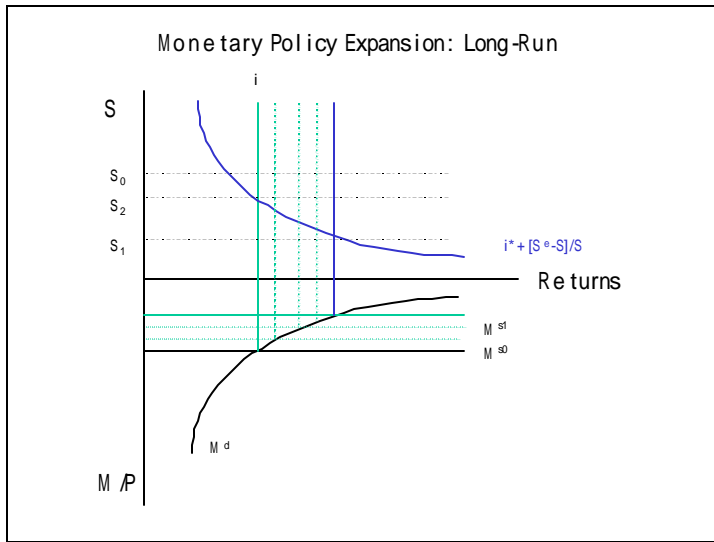
Graph 6: Effects of Permanent Monetary Supply Contraction



Graph 7: Monetary Policy Contraction: Short-Run



Graph 8: Monetary Policy Contraction: Long-Run



Graph 9: Effects of Temporary Fiscal Policy Expansion

