

UNIVERSITY OF SOUTHERN QUEENSLAND



**ECONOMIC STRUCTURAL ADJUSTMENT PROGRAMS (ESAP)
IN ZIMBABWE, 1990-2000. WOULD ALTERNATIVE POLICIES
HAVE BEEN MORE SUCCESSFUL?**

A dissertation submitted by

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ECONOMIC STRUCTURAL ADJUSTMENT PROGRAMS IN ZIMBABWE 1990 – 2000. WOULD ALTERNATIVE POLICIES HAVE BEEN MORE SUCCESSFUL?

ABSTRACT

The main aims of the dissertation are to develop an economic simulation model of the Zimbabwean economy for the 1980-2000 period and to use the model developed to simulate alternative policies to those of the economic structural adjustment program for that period.

The dissertation includes a review of the theoretical framework underlying the economic structural adjustment program in Zimbabwe. Economic structural adjustment programs are discussed in terms of the three main pillars of the 'Washington Consensus': budget austerity, privatization and liberalization. Problems arising from the consensus are identified.

A brief discussion of the Zimbabwean economy is presented. This discussion covers a range of aspects of importance for the dissertation, for example, the Unilateral Declaration of Independence, the nature of the Zimbabwean economy at the time of independence in 1980, reasons for the implementation of a structural adjustment program in 1990.

A simulation model of the Zimbabwean economy is developed using a Keynesian, simple macro-economic framework. The model constructed reflects the linkages between the various sectors and assumptions made.

about the economic relationships. Stella 8 software is used in to develop the model.

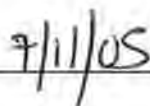
The modeling process has two phases. In phase one the model is tested; in phase two alternative policy settings of an increase in government expenditure and a decrease in the rate of interest are simulated. Results indicate that the alternative policies may have been preferred

CERTIFICATION OF DISSERTATION

I certify that the ideas, experimental work, results, analysis, software and conclusions reported in this dissertation are entirely my own effort, except where otherwise acknowledged. I also certify that this work is original and has not been previously submitted for any other award, except where otherwise acknowledged.



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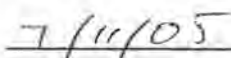


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Date

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Finally, I dedicate this dissertation to my late Grandparents, whose belief in me was inspirational. To them I say thank you and I have done it.

Chapter 1

Introduction

1.0 Introduction

The World Bank and the International Monetary Fund (IMF) have used economic structural adjustment programs (ESAP) over the last two decades as part of their lending structure for developing countries. The success of these programs has, however, been debatable. Leading economists, such as Stiglitz, have criticized these programs. Zimbabwe is one country that underwent structural reform, using the economic structural adjustment program as its base. However, as shown in this dissertation, the results have been far from what was intended

1.1 The research question

The research question for this dissertation is: given the failure of the *Economic Structural Adjustment Programs implemented in Zimbabwe between 1990 – 1995, would alternative policies have been more successful?*

In addressing this question, the first aim of this dissertation is to build an economic model, based on the Stella 8 software, of Zimbabwe for the period 1980-1998. The model was built using the STELLA Research Software (High Performance Systems, Inc. 2000). The second aim is to use the model to explore the outcomes of alternative policies from the time when ESAP was implemented (1990) to the end of the program (2000).

1.2 The structure of the dissertation

The dissertation is organized as follows;

Chapter 2: *Literature review*. This chapter presents a review of the literature relevant for the dissertation. The main focus of the chapter is on economic structural adjustment programs and their three main pillars (privatization, liberalization and budget austerity).

Chapter 3: *Zimbabwe and the economic structural adjustment program*. This chapter will focus on the Zimbabwean economy. It will discuss the reasons why ESAP was implemented, the results of ESAP and, finally, the lessons learnt from ESAP in Zimbabwe.

Chapter 4: *Model development*. The main objectives of the chapter are to, first, explain in some detail how the model of the Zimbabwean economy is developed and, second, to present the two alternative policies that are going to be simulated with the model.

Chapter 5: *Results*. In this chapter, the results of the developed model and the results of the alternative policies simulated with the model are presented and discussed.

Chapter 6: *Conclusion*. This chapter concludes the dissertation by reporting on the significance of the results obtained in Chapter five noting limitations of the study, and introducing implications for further research.

1.3 Justification of the Research

There are a number of reasons for the selection of the research question. First, ESAP was a major program implemented in Zimbabwe to initiate growth after its independence in 1980. A number of Zimbabwean economists (Tande, C., Robertson, J., & Murota, C.) believe that this was the beginning of Zimbabwe's economic problems. By understanding what went wrong and by seeing if different economic policies would have been more successful, future policies could avoid some of the mistakes made in the past.

Second, most of the research on the ESAP in Zimbabwe has highlighted its failure and the lessons that have been learnt from the program. This dissertation aims to extend such research by simulating and evaluating alternative policies.

Third, by using simulation-based software (STELLA), the research will add to the current economic literature on Zimbabwe. Research conducted to date has used traditional econometric models. The software chosen for this research allows the Zimbabwean economy to be modeled as a system, rather than as a linear econometric model.

Chapter 2

Literature Review

2.0 Introduction

This chapter presents a review of the literature of relevance for the dissertation. It focuses on the literature on economic structural adjustment programs and the three main pillars associated with such programs.

The chapter is organized as follows:

2.1: *Economic structural adjustment programs: a brief history.* In this section, a brief history of economic structural adjustment programs is provided.

2.2: *Structural adjustment programs and the Washington consensus.* In this section, a definition of structural adjustment programs is presented, and Williamson's ten common denominators ('the Washington consensus') for such programs are introduced. Discussion of the Washington consensus in this dissertation will center on Stiglitz's three main pillars (budget austerity, privatization and liberalization).

2.3: *Budget austerity.* This section focuses on the importance of government spending for the performance of an economy. It shows how a reduction in government expenditure in third world countries could cause a recession.

2.4: *Privatization.* This section explains the theory of privatization, its strengths and weaknesses, and the pre-conditions that need to exist for privatization to be implemented successfully.

2.5: *Liberalization.* This section discusses briefly the concept of market liberalization, the policies used to attain liberalization, the theory of liberalization and the role of liberalization in economic structural adjustment programs.

2.1 A Brief history of economic structural adjustment programs

Structural adjustment programs (SAPs) are linked with the operation of the International Monetary Fund (IMF). This fund is a specialized agency of the United Nations system set up by a treaty in 1945 to help promote the health of the world economy. Headquartered in Washington, D.C., it is governed by a global membership of 184 countries. The International Monetary Fund's statutory purposes include: promoting the balanced expansion of world trade, the stability of exchange rates, the avoidance of competitive currency devaluations, and the orderly correction of a country's balance of payments problems (IMF 2005).

When the IMF was founded, it adopted the fundamental insights of Keynesianism. After the Second World War, the IMF's main goal was to help prevent another worldwide depression, like that of the 1930s, which was caused by a liquidity failure. The IMF was intended to counter such a possibility by lending money to some countries and pressuring others to pursue more expansionary policies (Serin & Arýcan n.d).

In the 1970s, IMF lending to developing countries rose to unprecedented levels. This was because most of the developing countries were experiencing balance of payments problems caused by falls in commodity prices and reduced external financing (Serin & Arýcan n.d).

The 1980 announcement by Mexico that it was unable to service its debt led to the IMF changing its lending structure. This led to the cessation of voluntary lending to less developed countries. Ferreira (1992, p.10) states that 'the age of concerted lending, aimed only at "rolling over" existing debt, commenced'. The huge current account deficits of many less developed countries now had to be financed without any foreign capital inflows.

Thus, adjustment in the 1980s was to acquire a new face. This meant that the IMF would give loans with conditions. These conditions would be in the form of policy settings that comprised what was termed 'structural adjustment programs'. Many countries in the 1980s agreed to these conditional loans because of their liquidity problems and the fact that they had a limited number of options available to them (Ferreira 1992). This was the dawn of a new era: the era of conditional lending to countries in transition.

In this new era spanning over two decades, Ghana is one country for which structural adjustment programs have been hailed a success. Kapur, Hadjimichael, Hibers, Schiff & Szmczak (1991, p.1), state that:

... over the past eight years, Ghana has pursued a comprehensive program of financial and structural reforms, which has come to be perceived as an example of adjustment with growth.... As a consequence, Ghana's economic and financial performance has

improved substantially after a prolonged period of decline, even though a number of structural and institutional constraints continue to confront the economy.

Although the IMF and World Bank use Ghana as a benchmark for successful Structural Adjustment, others view the story far less positively. Green (1987) argues that the results of the program were mixed and that several weaknesses emerged. These weaknesses raise doubts as to whether its targets were comprehensive enough and its instruments appropriate. Kraus (1991) argues that the economic gains have not made a significant difference in the living standards of most Ghanaians. However, Leith (1996) argues that the reforms have made a difference. That is, output is now substantially greater than it otherwise would have been.

2.2 Structural adjustment programs and the Washington consensus

Economic structural adjustment programs are defined by Van den Brink (1999, p.3) as a:

... set of fundamental economic reforms to change the structure of an economy from an inward-looking, protectionist, state-controlled, capital-intensive and exclusive economy to an outward-looking, competitive, market-based, employment-intensive and inclusive economy.

Van den Brink (1999) argues that countries adjust to internal or external "shocks" or to new environments. Countries adjusting do not ask whether or not to adjust; they ask how they are going to adjust. Hussain & Stern (1992) define structural adjustment programs in two parts. The first part of such a program consists of stabilization policies which aim to achieve broad macroeconomic equilibrium; that is, to reduce inflation to acceptable levels, to raise employment to levels compatible with non-accelerating inflation, and to

reduce current account deficits. This is to be achieved by affecting the level and composition of aggregate demand.

The second part of structural adjustment is to increase the efficiency with which agents perform their roles and allocate their resources. It has more of a "supply-side" focus. Hussain & Stern (1992) argue that stabilization tries to move the economy to the intersection of goods, labor and assets markets equilibrium, as well as balance of payments equilibrium, while structural adjustment aims to move the economy from within the production possibility set to its boundary.

Lawson (1995) states that stabilization policies seek to achieve external and internal equilibrium, while structural adjustment is to foster growth. Williamson (1990) argues that one interpretation of the 'Washington Consensus' is that stabilization represents a prior condition for structural adjustment (*African alternative framework to structural adjustment programs for socio-economic recovery and transformation* 1991).

On the basis of the concept of structural adjustment briefly outlined above, a number of key policy instruments were designed for stabilization and adjustment programs by both the IMF and the World Bank. These instruments included:

- *removal of restrictions* on foreign investments in local financial industry services,
- *reorientation* of economies towards exports,

- *reduction of wages, or constraining wage increases,*
- *reduction in government spending,*
- *reductions of restrictions to imports,*
- *devaluation of local currencies,*
- *privatization of state enterprises, and*
- *deregulation of corporations' (Bello 1996, p.25).*

Williamson (1989) referred to these policy instruments collectively as the "Washington Consensus". He used the phrase in the sense of the lowest common denominator of policy advice being offered by the Washington-based institutions to Latin American and sub-Saharan African countries.

Stiglitz (2002) derived three main pillars of the Washington consensus from the list of instruments stated above. They were budget austerity, privatization and market liberalization. Discussion of economic structural adjustment programs in the following three sections of this chapter focus on these three main pillars.

2.3 Budget austerity

Budget austerity within the structural adjustment program is based on the argument that increased government spending can induce increases in interest rates and result in inflation (via the multiplier effect on output). Such an outcome is predicted from the condition for equilibrium in the goods market model, as noted by Blanchard (2000, p.383):

$$GDP = 1/1 - C_1 [C_0 + I(Y, i) + NX(Y, Y^*, \underline{E}^e / 1 + i - i^*) + G - (C_1 T)]$$

Where;

- $1/1-C_1$ = the multiplier;
- C_0 = autonomous consumption;
- I = investment;
- G = government expenditure;
- NX = net exports;
- Y = production;
- i = domestic interest rate;
- i^* = foreign interest rate;
- \underline{E}^e = expected future exchange rate (assumed be constant);
- Y = domestic income; and
- Y^* = income for rest of the world.

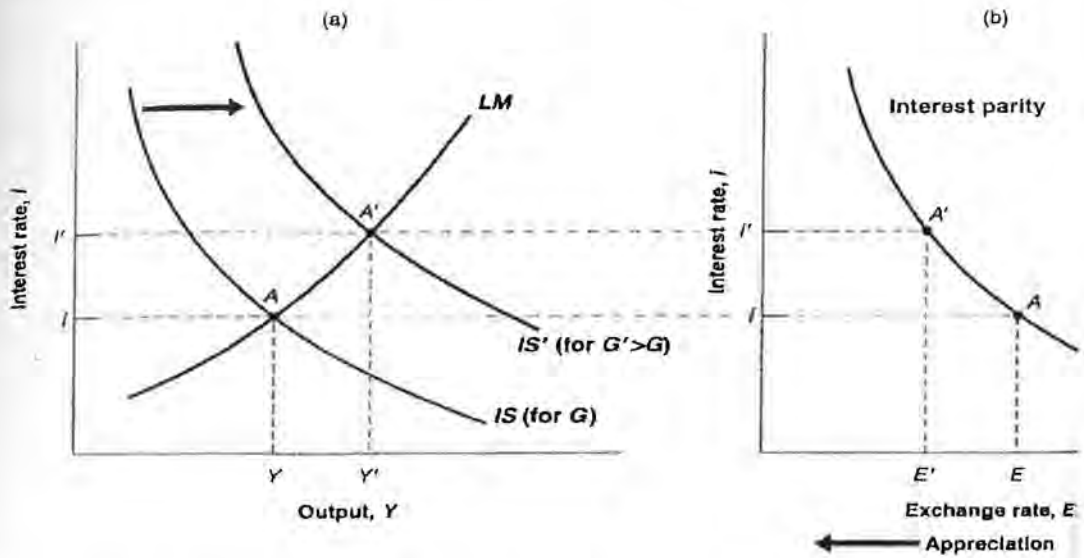
This equation shows equilibrium output to be the level of output such that aggregate supply equals aggregate demand. Blanchard (2000) notes that, in this model, the second term [$C_0 + I + NX + G - (C_1T)$] can be termed “autonomous spending”, where investment and net exports are assumed to be autonomous. The model allows the working out of the effects of an increase or decrease in government expenditure on output and other variables.

Blanchard (2000, p.387), states:

... an increase in government spending leads to an increase in demand, leading to an increase in output. As output increases, so does the demand for money, leading to upward pressure on the interest rate. The increase in the interest rate, which makes domestic bonds more attractive, also leads to an appreciation of the domestic currency. Both the higher interest rate and the appreciation decrease the domestic demand for goods, offsetting some of the effect of government spending on demand and output.

This is shown in Figure 2.0.

Figure 2.0: Effects of an increase in government expenditure.



Source: Blanchard, O 2000, *Macroeconomics*, 2nd edition, Prentice-Hall, Australia, p. 389.

The economy is initially at point A in diagram (a). An increase in government expenditure from G to G' increases output at a given interest rate, shifting the IS curve to the right, from IS to IS'. Because government spending does not enter the LM relation, the LM curve does not shift. The new equilibrium is at point A', with a higher level of output and a higher interest rate. As is shown in figure (b), the higher interest rate leads to a decrease in the exchange rate – an appreciation of the domestic currency in the model. Therefore, an increase in government spending would lead to an increase in output, an increase in the interest rate, and an appreciation of the exchange rate. The opposite is also true. That is, a decrease in government expenditure leads to a decrease in output, a lower interest rate and a depreciation of the currency.

The problem is that if third world governments decrease their expenditure it could cause a recession. The reason is that in many developing countries governments employ the majority of the labor force and are responsible for contributing to a high percentage of aggregate demand. A reduction in government expenditure, and the method of its implementation in countries that are under- going transition, incorporates the other two pillars of the Washington Consensus (privatization and liberalization). These are discussed in the following two sections of the chapter.

2.4 Privatization

The major areas of expenditure for governments in Sub-Saharan Africa are state-owned enterprises (often claimed to be inefficient and to be running losses) and public sectors with huge wage bills. As Stiglitz (2002) argues, governments usually perform functions that they have no business performing. However, policies used to handle fiscal austerity are not singular but are incorporated in the other two pillars of the "Washington Consensus": privatization and liberalization.

According to Aktan (n.d), the concept of privatization has not been clarified, either in theory or practice. Bailey (1987, p.138) notes that:

... one of the concepts in vogue is privatization. Although the concept itself is unclear, it might be tentatively defined as a general effort to relieve the disincentives toward efficiency in public organizations by subjecting them to the incentives of the private market.

Kay & Thompson (1986, p.18) agree with Bailey, noting that 'privatization is a term which is used to cover several distinct and possibly alternative means of changing the relationships between the government and private sector'.

However, privatization is frequently referred to as the sale of publicly owned enterprise assets or shares to individuals or to private firms. Aktan (n.d) argues that this definition gives only a narrow meaning of privatization. In a broader sense, it refers to a restriction of the government's role and suggests methods or policies to strengthen the free market economy. The former meaning of privatization, that is, the sale of a publicly owned enterprises assets or shares to the private sector, is mostly called "denationalization".

Stiglitz (2002) argues that, in many developing countries, governments all too often spend too much energy doing things they shouldn't do. This distracts them from what they should be doing. The problem is not so much that the government is too big, but that it is not doing the right thing. According to Stiglitz (2002), governments by and large have little business running steel mills, and usually make a mess of it.

There are two important arguments in favor of privatization: greater efficiency and wide-spread private ownership (Bös 1986). The former is the result of the competition that denationalization brings. A competitive market creates both allocative and productive efficiency. Allocative efficiency means that economic resources can be used in the production of goods and services that people desire most. In other words, competition causes economic resources

to flow to their most highly valued uses (Aktan n.d). Productive efficiency refers to a situation in which the total output of a firm is obtained at the lowest possible cost in terms of economic resources. Alternatively, competition forces firms to produce their output at the lowest possible cost.

Hence, Bannock, Baxter & Davies (1998) argue that privatization brings an end to X-inefficiencies which arise when economic resources are not being used at full capacity in the public sector. This happens for publicly owned enterprises because some of them have monopolistic status and there is little entrepreneurial incentive in them. Although a monopolistic, publicly owned enterprise could gain from reducing its costs, there is no competitive pressure to force it to do so. Therefore, publicly owned enterprises may use resources wastefully, resulting in inefficiencies in the sectors or industries. Bannock, Baxter & Davis (1998, p.331) argue that governments run businesses poorly for the following reasons:

- 'governments are interested in improving performance of the firm for political gains,
- corruption; employees are hired for political rather than business reasons,
- companies may have social goals rather than business ones, and
- nationalized industries are prone to political interference'.

In particular, the first and last reasons are important because funds are scarce: if the government-run companies are losing money, or if they are not as profitable as possible, these funds are unavailable to other, more efficient

firms. Thus, the efficient firms will have a harder time finding capital, making it difficult for them to raise production and create more employment.

However, privatization faces problems in its implementation. As Stiglitz (2002) emphasizes, there are some preconditions that have to be satisfied before privatization can contribute to an economy's growth. Moreover, the way privatization is implemented makes a difference. Some of these issues are discussed below.

The timing and planning of the privatization process is important. With privatization, timing is an issue: it is necessary to make a time schedule in order to reach a successful outcome. Aktan (n.d, p.2) argues that the stages listed below must be followed during the implementation stage to achieve the required result:

- 'promotion of the privatization program and the strategy to the public,
- preliminary studies on various sectors of the economy must be undertaken,
- a legal framework that facilitates privatization should be enacted, and
- privatization should be implemented gradually'.

The pace at which privatization is enacted is a key issue that Stiglitz (2002) discusses when he considers the failure of privatization in economic structural adjustment programs. Stiglitz (2002, p. 54) states that:

...the IMF and the World Bank approached this issue rapidly during the 1980s and 1990s, arguing that it is far more important to privatize quickly, with the issues of competition and regulation dealt with later.

However, Stiglitz (2002) argues that, once a vested interest is created, the firm has an incentive, and the funds, to maintain its monopoly position. He points to a "natural reason" why the IMF has been less concerned about competition and regulation and the pace of implementation than it should have been. This is that privatization and unregulated monopolies can yield more revenue to the government, and the IMF focuses far more on macroeconomic issues, such as the size of the government's deficit, than on structural issues, such as the efficiency and competitiveness of the industry.

Further, Stiglitz (2002) asserts that if a government is corrupt, there is little evidence that privatization will solve the problem. This may be due to the fact that the same government that has mismanaged the firm will also handle the privatization. Government officials realize that privatization does not limit them to the skimming of annual profits. But, by selling government enterprises at below market price, they get a significant percentage of the asset value for themselves, rather than leaving it for subsequent officeholders. Kay & Thompson (1986) note that advocates of privatization argue that these costs can be overlooked because the textbooks seem to say that once private property rights are clearly defined, the new owners will ensure that the assets are managed efficiently. Thus, the long-term would be 'bright' even if the short term was 'ugly'. However, Stiglitz (2002) argues that without the appropriate legal structure and market institutions, the new owners might have an incentive to strip assets rather than use them as a basis for expanding industry. Goorha (2000) points out that corruption is a serious problem for economies in transition, especially during the privatization

process. He suggests that government should have two main roles to play in this process:

- the implementation of well-defined property rights to foster competition, and
- collaboration in the pursuit of economic rent.

Goorha (2000) also argues that transaction costs are lowered, and economic growth encouraged, through the evolution of institutions that exploit opportunities by engaging in economic exchange and transformation of resources. By failing to perform this role efficiently, governments will increase the costs of transactions and lower economic growth. Governments should also provide public goods and services that may be under-provided by the private sector.

In his study of corruption, Goorha (2000) concluded that during the privatization process the corruption structure in the economy changes from a more centralized joint monopoly to a decentralized one. This causes an increase in the level of corruption. He argues that the decentralized corruption structure is detrimental in the sense that it discourages private sector investment. This is because the centralized nature of a joint monopoly corruption structure and the strict monitoring over the activities of its members is encouragement to private sector investors. On the other hand, the lawless and unpredictable nature of a decentralized corruption structure deters economic activity.

2.5 Liberalization

Stiglitz (2002, p.59) defined liberalization, 'as the removal of government interference in financial markets, capital markets, and trade'. He adds that trade liberalization is supposed to increase a country's income by forcing resources to move from less productive uses to more productive uses (a consequence of the pursuit of comparative advantage).

The World Bank (1994) argues that sustained economic growth requires more than a higher rate of investment. For example, it requires, first, the 'unleashing' of markets so that the competition acts to improve the allocation of economic resources. Second, it requires getting price signals 'right' and creating a climate that allows businesses to respond to those signals in ways that increase the returns to investment. Finally, it requires that trade, agricultural, and other regulatory reforms be essential complements to reducing the government interventions that distort prices and tie up markets.

The World Bank (1994) further asserts that any discussion of Sub-Saharan African trade reform, particularly import liberalization, must make two distinctions. First, import controls driven by short-run balance-of-payments problems-usually implemented through foreign exchange rationing-differ from the longer-term, protectionist import restrictions-usually implemented through tariff and non-tariff barriers. Much of the liberalization attempted has attacked the short-run controls.

The second distinction is that imports recorded in national statistics under official exchange rates differ from the actual quantity of imports and their market prices because of widespread smuggling and the commonplace evasion of tariffs and import controls. That is, much import liberalization in Africa has merely rationalized the situation in parallel markets and reallocated the "rents" previously embodied in official controls (World Bank 1994).

Krueger (1978) identified four main phases of liberalization in Africa's trade regimes; complete or nearly complete government control or rationing of imports; heavy use of non-tariff barriers for protectionist purposes; mostly or exclusively tariff-based protection; and free trade. These phases are summarized in Table 2.0. She argued that, although the range of policies within each category is large, the overall framework is useful in tracking reform efforts.

Table 2.0: Phases in liberalizing import regimes.

Phase	Comment	Examples Outside Africa
Complete or nearly complete government control over imports	Usually the result of severe macroeconomic disequilibrium	Peru (1987), Brazil (1966)
Extensive trade barriers, with widespread non tariff barriers	Typical of highly protectionist import-substituting regimes	Argentina (1970s), Brazil (1980s), India, (1970s), Turkey (early 1980s)
Modest, mostly tariff-based protection	Typical of most industrialized countries	Republic of Korea (late 1980s)
Free trade or low, uniform tariffs	Rare	Hong Kong (ongoing), Chile (late 1980s), Argentina (early 1990s).

Source: Chakraborty, D. 1999, 'Macroeconomic conditions and opening up – Argentina, Chile and India: A comparative study', *Journal of Social Economics* 26,1/2/3, p. 350.

The World Bank (1994) notes that two patterns of trade reform in Africa are evident. The first is that most adjusting countries with flexible exchange rates have moved away from complete control over imports and foreign exchange and toward the use of extensive trade barriers, especially non-tariff barriers –

and in some cases toward modest, mostly tariff-based protection. Some (Tanzania for example) have eliminated rationing but have not fully eliminated lists restricting allowable imports, or they have relied heavily on donor financing for systems of open general licenses. A few countries (notably Ghana) have committed themselves to making foreign exchange available through realistic exchange rates and to eliminating all but a few non-tariff barriers.

The second pattern is evident in a group of countries that have never resorted to widespread foreign exchange rationing and have moved slowly toward import liberalization. This group includes the flexible exchange rate countries that never experienced a severe macroeconomic crisis, such as Zimbabwe, as well as the fixed exchange rate countries that maintained convertible currencies throughout the period. According to the World Bank (1994) there are four common interventions evident in import liberalization in Africa. These are:

- elimination of foreign exchange rationing,
- elimination of non-tariff barriers (NTBs),
- reform of tariffs, and
- implementation of regulatory barriers.

As well increasing imports, it is vital during adjustment to increase exports so as to improve both economic growth and the balance of payments. Generally, an overvalued currency has been the primary obstacle to export growth, with devaluation a major part of the cure.

The World Bank (1994) argues that exports, especially of traditional agricultural commodities, have also been adversely affected by three other mechanisms. These are:

- export licensing and controls over export activities (often widespread),
- export taxes (traditionally high) as an important source of government revenue, and
- marketing boards, with monopoly power over the sale of exports and over domestic purchases from farmers. These have reduced the profitability of exporting in many countries by offering export producers low prices.

To deal with such problems, the major policy cure of depreciation of the real exchange rate, combined with reduced import protection, has increased the profitability of exports relative to the production of import substitutes or traded goods. However, many countries have tried to promote nontraditional exports, by using a variety of approaches. These are listed below:

- 'legal provision for duty drawbacks (operating in most countries),
- export processing zones,
- relaxation of foreign investment codes, and
- streamlining reporting and licensing requirements, and strengthening infrastructure' (World Bank 1994, p. 15).

Stiglitz (2002) argued that moving resources from low-productivity uses to zero productivity ones does not enrich a country and that this is what happened all too often under IMF programs. It is easy to destroy jobs, and this is often the immediate impact of trade liberalization as inefficient

industries close down under pressure from international competition. Stiglitz (2002) highlights the point that IMF ideology holds that new, more productive jobs will be created as the old, inefficient jobs that have been created behind protectionist walls are eliminated. But this is simply not the case.

It takes capital and entrepreneurship to create new firms and jobs. In developing countries, entrepreneurship is in shortage (due to a lack of education) as is capital (due to a lack of bank financing). The situation has been made worse by high interest rates – sometimes exceeding 100% - making job and enterprise creation an impossibility, even in a good economic environment (World Bank 1994).

According to the Washington Consensus, privatization, liberalization, and macro stability are supposed to create an environment that attracts investment. This investment in turn creates growth. That is, foreign business brings with it technical expertise and access to foreign markets, creating new employment possibilities. Foreign firms also have access to sources of finance. This is especially important in those developing countries where local financial institutions are weak (Seliger 2004).

However, when foreign businesses enter a new market they often destroy local competitors, squashing the ambitions of small businessmen who had hoped to develop homegrown industries. For example, the entrance of Coca-Cola and Pepsi overwhelms local soft drink firms who are sometimes unable to cope with the increased competition (Seliger 2004).

2.6 Summary

This chapter has presented a discussion of economic structural adjustment programs. A brief history of the role of the IMF in the world economy was presented first. Second, it discussed and analyzed the economic structural adjustment programs in relation to the three main pillars of the 'Washington Consensus'. Third, it highlighted the weaknesses of economic structural adjustment programs and preconditions that need to exist for the programs to be a success.

The work of a number of researchers in this field was noted. Blanchard (2000) argued that budget austerity could cause a recession in developing countries because it will effectively reduce aggregate demand. Stiglitz (2002) argued that liberalization might increase a country's income, but if not implemented properly it could lead to high levels of unemployment with local firms being forced out of business by foreign competitors.

Finally, Stiglitz (2002) argued that privatization has potential problems in its implementation. He notes that there are preconditions that have to be satisfied before privatization can contribute to an economy's growth. Moreover, the way privatization is implemented makes a big difference.

Having discussed the general nature and potential problems of economic structural adjustment programs, the particular case of Zimbabwe may be explored. Chapter three discusses the Zimbabwean economy and its experience with economic structural adjustment programs.

Chapter 3

Zimbabwe and the economic structural adjustment program

3.0 Introduction

Having discussed structural adjustment programs in terms of the relevant theory and its application in Chapter 2, this chapter will focus on the Zimbabwean economy.

This chapter is organized as follow:

- 3.1: *A brief history of the Zimbabwean economy and the reasons why ESAP was adopted.* This section presents a brief historical account of the Zimbabwean economy. It covers the period from around 1945 to 1990 and outlines the state of the economy before the program was implemented.
- 3.2: *Policy settings.* In this section, a review of the policy settings of the program is presented. It includes a summary of the policy objectives that needed to be satisfied by the program.
- 3.3: *Results and lessons learnt from the economic structural adjustment program.* The results and the lessons learnt from the economic structural adjustment program are presented in this section of the chapter.

3.1 A brief history of the Zimbabwean economy and the reasons why ESAP was adopted

After almost a century of struggle against colonial rule, and over a decade of bitter armed struggle when the two African liberation movements (the Zimbabwe African National Union (ZANU) and the Zimbabwean African People's Union (ZAPU)) took arms to liberate the country from white domination, Zimbabwe attained independence in 1980.

This independence era was ushered in amidst a great deal of rejoicing by an African population brimful with optimism that the country was on the threshold of a new future that would be both prosperous and peaceful. The Zimbabwean population had every confidence that, now that a people's government was in power, the inequalities of the past would be redressed. That is, full access to education and health services, among other services, which had been denied the Zimbabweans under colonialism, would be assured to all.

During the period of British Rule (1923 – 1965), an open economic system was introduced and relatively high levels of growth eventuated, mainly driven by strong export performance. This was in part a result of heavy investment in infrastructure by the government and substantial direct foreign investment. By 1965, the manufacturing sector was relatively well diversified and exports accounted for almost 40% of GDP.

This relative stability came under attack on November 5, 1965. The white minority government formally rejected calls by Britain to change to majority rule and declared a Unilateral Declaration of Independence (UDI). The British government regarded the UDI as illegal and terminated all relations with the country. The United Nations implemented economic sanctions and, in 1967, the armed struggle for majority rule began.

As a result of the sanctions imposed on the country, it switched to import substitution policies. To help the development of these policies, quotas, price controls, investment controls, and foreign exchange allocation controls were introduced. During this period (1967-1970), agricultural marketing boards were allowed to effect price changes to stimulate food production. Surprisingly, relative prosperity ensued from 1967-1974 under this regime.

However, by the late 1970s, Zimbabwe's liberation war had escalated to critical proportions. In December 1979, following the Lancaster House Conference chaired by the British, the minority rule parliament was dissolved. Elections for majority rule took place for the first time in February 1980, and a new country, Zimbabwe, was born.

ZANU, in its earlier pre-election manifesto, had promised to build a socialist nation based on equity and undertook to pursue development policies for the benefit of the black majority. The Mugabe regime proceeded swiftly to end racial discrimination and enacted legislation designed to improve the quality of life for the Zimbabwean majority (Mlambo 1997).

The government aimed to expand education facilities to service those areas that had hitherto been ignored by the colonial administrations, and to ensure the provision of free primary education and health services to benefit the poor majority. Basic consumer goods such as mealie meal (the staple food), milk, cooking oil, and several other items were subsidized to make them affordable to the Zimbabwean poor. A minimum wage law was promulgated to ensure that workers received a decent wage (Mlambo 1997).

The initial results were promising, with the quality of life of the Zimbabwean majority improving considerably during the first decade of independence, despite numerous economic, geo-political, environmental and other problems that faced the country between 1980 and 1990.

Mlambo (1997) argues that despite sanctions, or perhaps because of them, the Zimbabwean economy was one of the most diversified in Africa by 1980. Not only did the country have a well-developed, highly diversified agricultural industry and a lucrative mining sector, it also had experienced rapid industrialization.

The evidence stems from the fact that, at UDI in 1965, the country produced only 600 separately identifiable (manufactured) products but, by independence, manufactured products made in the country had increased to over 6000, 30% of which were exported (Baumann 1990).

The reality was, however, that, while the country may have been doing well, the majority of the people were not (Mlambo 1997).

This was due mainly to the fact that only a small white minority of the Zimbabwean population enjoyed the fruits of increased productivity in the economy, while the African majority was marginalized, exploited or ignored. The country's landholding patterns were highly skewed in favor of the minority white population and at the expense of the African majority, 60% of whom lived in cramped, unproductive and underdeveloped lands known as the Tribal Trust Lands (Mlambo 1997).

This inequitable distribution of land had been formalized in the country's legal system from the early days of European colonialism. The Land Appointment Act of 1930, the Land Husbandry Act of 1951 and the Land Tenure Act of 1969 had all further entrenched the racial division of land, giving the white population, comprising only 4% of the total population, approximately half of the total land area (Mlambo 1997).

Mlambo (1997) argues that disparities also existed in the areas of government-sponsored infra-structural development as the whites enjoyed generous government support in the construction of dams, paved roads and railways, while the African areas were largely neglected.

The Zimbabwean Ministry of Finance (1986, p.49) summarized the negative effects of colonial land policies, stating that:

... the misallocation (of land under colonial rule) resulted in inefficient use of land and low per capita income for the majority of the population. Because of the relatively small areas of land allocated and consequent population pressure in communal lands, the poor quality of the land and poor agricultural support services resulting in relatively unimproved traditional farming practices, the productivity of land progressively declined over the years. This situation, coupled with the discrimination led to a decline in production in communal farming areas whilst stimulating production in European areas. The starvation wages paid to commercial farm workers contributed to the high profitability on European farms.

This unfair distribution of resources was accompanied by a similarly unfair allocation of income. The white population received incomes that were several times higher than the black Zimbabweans. Table 3.0 shows these disparities. For example, in the mining/quarrying sector, white Zimbabweans received more than 10 times the earnings of black Zimbabweans. There were three sectors in which black Zimbabweans earned incomes that were above Z\$1000; these were finance/insurance/real estate, transport/communication and the health sectors.

Table 3.0: Average annual earnings by sector and race, March 1979 (Z\$)

Sector	Whites	Blacks
Mining/Quarrying	7416	594
Manufacturing	5796	822
Electricity/Water	6315	813
Construction	5250	648
Finance/Insurance/Real Estate	5097	1563
Distribution/Hotels, Restaurants	4146	735
Transport/Communication	5391	1095
Public administration	6342	957
Education	4389	1338
Health	3642	1170
Private domestic service		350
Other services	4083	672

Source: Zimbabwe Statistical Office, 1981, quoted in Economist Intelligence Unit, *Zimbabwe's First Five Years*, (1995).

With regard to the provision of social services, the picture was equally dismal. The urban areas, where the majority of the white population resided, had highly developed, well maintained and generously funded health, transport, communication, educational and housing services, while the communal areas were neglected (Mlambo 1997).

The Ministry of Finance (1986) states that Africans were also denied access to financial resources. The white-owned banks required collateral and since blacks were not allowed to own land they could not use it as collateral. This inhibited Zimbabweans from investing in business ventures.

Therefore, one of the major problems facing the incoming independence government was how to correct the imbalances of the colonial past and ensure that the nation's resources were distributed equitably.

The Ministry of Finance (1986) argues that another problem at the time of independence in 1980 was that the economy itself was ailing. The international economic sanctions imposed in 1957, and the escalating guerrilla war, had taken a heavy toll on the country's economy by 1979.

By the mid-1970s, the boom years of the Rhodesian economy were ending as the import-substitution industrialization strategy had run its course. The economy, which had been growing at an average annual rate of 8% between 1967 and 1974, had reached a plateau and had begun to slide (Ministry of Finance 1986).

Furthermore, the regional political situation changed to Rhodesia's disadvantage. Zambia closed its border in 1973, Mozambique, free from Portuguese rule, closed its border in 1976. Sanctions could now be enforced more effectively.

Renwick (1981, p.60) highlights the problem:

...the cumulative effects of the decline in economic activity since 1975 were serious. GDP declined by over 12% in real terms with a 20% fall in real per capita income. Agricultural production in real terms had declined progressively since 1975 ... Rhodesia experienced in this period a 30% deterioration in the terms of trade, with the increases in the prices of imports far outstripping export prices.

The escalating guerrilla war, which had intensified in 1972, wrecked havoc on the country's agricultural sector. Insecurity in the countryside severely disrupted the agricultural economy as white farmers abandoned their farms and either moved into cities or emigrated. The country's lucrative tourist industry was disrupted by the war. Tourist traffic declined from 339 210 visitors to a mere 87 943 visitors between 1976 and 1979. By 1979, net foreign currency earnings had dwindled from \$27 million Rand in 1975 to \$9.2 million Rand (Mlambo 1997).

In addition, the war took a heavy toll on the country's economic infrastructure. By 1979, over 2000 schools had been damaged, while 155 out of the country's 450 rural hospitals had been closed. By 1980, approximately 20% (1.4 million) of the country's population was living in refugee camps in the

neighboring countries. These had to be brought back to Zimbabwe and looked after by the incoming government (Mlambo 1997).

Thus, Zimbabwe's inheritance was not as good as one might first imagine. However, the government stated that its reform agenda on education, health and housing services would be provided to the majority. Land would be redistributed more equitably; the government would take control of the "commanding heights" of the economy or, in the government's terminology, 'strategic industries'; the country's independence and interests would be jealously guarded and economic development would be targeted at promoting equity. This would be funded through income generated by the economy, which was expected to grow rapidly (Mlambo 1997).

Large strides were made in the provision of health and education after independence. These achievements are listed below:

- 'primary school enrollments rose (1.2 million in 1980 - 2.2 million in 1989),
 - secondary enrollments rose from 74 000 to 671 000 in the same time period,
 - health and population – the number of fully immunized children tripled from 25% to 86% of the relevant population
 - infant mortality declined from 86 to 61 per 1000 births,
 - life expectancy rose from 55 to 59 years, and
 - population growth rate had fallen to an estimated 2.8% per annum in 1989'
- Zimbabwe: A Framework For Economic Reform (1991-1995) (1991, p. 10).*

Although real GDP growth averaged 6% and annual per-capita GDP growth averaged 2%, economic progress during the 1980-1990 period failed to meet the expectations of the Zimbabwean government. It was generally felt that the current economic system was not allowing Zimbabwe to reach its full economic potential (*Zimbabwe Government 1990, 1*).

Growth in Gross Domestic Product during the 1980 –1989 period was 6% per annum and lagged behind population growth (*Zimbabwe: A Framework For Economic Reform (1991-1995), 1991*).

By the late 1980s, it was clear that Zimbabwe's growth was being severely constrained by its economic policies. Foreign currency shortages, an anti-competitive environment, high unemployment, high inflation, price controls and a government budget deficit that was considered to be too large were the factors that were cited as leading to the low growth. These were the main reasons cited by the Zimbabwean government in its major policy document, (*Zimbabwe: A Framework For Economic Reform (1991-1995) 1991*).

The bulk of the additional formal sector employment during the 1980s was in the government sector, especially in health, education and public administration. This was a deliberate effort to redress the historical inequities. Unfortunately, it was not matched by employment growth in other sectors of the economy, particularly in small-scale sector enterprises. Attention had to focus on investment in other sectors of the economy and on employment creation, especially in small-scale sector activities. Consideration had to be

given to a framework within which the informal sector could operate. It was only then that the nation's need for growth and employment opportunities could be effectively and continually met (*Zimbabwe: A Framework For Economic Reform (1991-1995)*, 1991).

The central government's fiscal deficit was in excess of 10% of GDP during the 1980's and this led to its debt reaching 71% of GDP by 1989 (36% external debt) (*Zimbabwe: A Framework For Economic Reform (1991-1995)*, 1991).

With the total public sector debt at 90% of GDP in 1990, a major reason for the large budget deficit was investment by the government in the economy via publicly owned enterprises. Unfortunately, the economic performance of the majority of the state-owned enterprises was not impressive, to say the least. Ineptitude on the part of management, corruption and too much government interference in the day-to-day running of the enterprises made these enterprises, with a few notable exceptions, commercial disasters (*Zimbabwe: A Framework For Economic Reform (1991-1995)*, 1991).

For example, Air Zimbabwe, which was set up in 1980, lost money every year throughout the decade (1980-1990), with the exception of 1981. Between 1982 and 1986, Air Zimbabwe's annual losses increased from Z\$4.4 million to Z\$28.2 million. To prevent the collapse of the airline, the government had to pump colossal amounts of money in the form of subsidies at taxpayers'

expense into Air Zimbabwe. Between 1984 and 1990, the Government subsidized the airline by Z\$140 million.

Other government-owned enterprises, such as the Agricultural Marketing Board (AMB), Grain Marketing Board (GMB), Cold Storage Commission (CSC) and Dairy Marketing Board (DMB) lost money throughout the 1980-1990 decade. This performance is shown in Table 3.1.

Table 3.1: Government owned enterprise deficits, 1980-1987 (Z\$M)

Year	AMB	GMB	CSC	DMB	CMB
1980	30.37	33.14	12.20	-2.20	-2.94
1981	32.51	10.87	20.47	10.21	-9.05
1982	46.07	29.66	10.98	5.53	-0.08
1983	25.14	8.96	9.12	7.75	-0.69
1984	25.12	6.70	9.52	8.16	-0.74
1985	16.08	7.08	4.84	7.99	-3.83
1986	51.24	33.76	5.37	6.00	6.12
1987	32.10	3.04	12.13	9.70	7.23

Source: World Bank, *Zimbabwe Agriculture Sector Memorandum* (Washington D.C., World Bank, 1981), 7., in Mlambo 1997.

Inflation averaged around 15% per annum during the 1980's. With nominal interest rates averaging 12%, the real interest rate was negative. Nevertheless, limited consumer options and the presence of savings institutions helped to maintain a savings rate of about 20% per annum. These savings, coupled with negative real interest rates and low private investment demand, allowed the central government to finance its fiscal deficits of over 10% of GDP (*Zimbabwe: A Framework For Economic Reform (1991-1995)*, 1991).

The principal cause of low growth had been the low level of investment in the productive sectors of the economy. Investment had been barely adequate to maintain the capital stock, let alone to increase it and raise productivity.

Based on the poor economic performance of the economy between 1980 and 1990, the government embarked on an Economic Structural Adjustment Program in October 1990.

3.2 Policy settings

The primary objective of the Economic Structural Adjustment Program in Zimbabwe was economic recovery and sustained growth. However, a more detailed set of objectives includes the following (Carter n.d):

- increase in economic growth,
- improvement of living standards,
- reduction of unemployment,
- constrained Government spending,
- provide a solution for the foreign exchange problem,
- attract foreign investors, and
- increase exports of goods and services.

The Government expected an economic growth rate of 5% per annum by 1995. To achieve the overall growth target in a sustainable way, the following objectives had to be met (*Zimbabwe Government* 1991):

- industrial growth was projected to be about 5.8% per year,
- agricultural growth of about 3.2% per year,

- service sector growth of about 5% per year,
- overall investment to rise to 25% of GDP, and
- exports and imports would both have to increase as a share of GDP.

Price controls were gradually eliminated; untargeted food subsidies disappeared, along with subsidies to major government-owned enterprises; foreign exchange restrictions were removed; and the exchange rate was allowed to float. The economic structural adjustment program was also fairly successful in reducing civil service employment (*Zimbabwe Government 1991*).

Three key areas were identified for adjustment (*Zimbabwe Government 1991*). These were fiscal and monetary policies, trade liberalization, and deregulation.

The policy document (*Zimbabwe: A Framework for Economic Reform (1991-1990)* 1991) argued that the deregulation of the economy was to be underpinned by appropriate fiscal and monetary policies. Adjustments in fiscal policy would allow an increase in resources available for use in the productive sector. A more active use of monetary policy, combined with the increased use of indirect policy instruments, would mobilize and channel savings into the most productive uses, while reducing the rate of inflation.

The deficit of the central government was to be reduced to 5% of GDP (excluding official grants) by the financial year 1994/1995. This may be compared to an estimated deficit of 10.4% of GDP in the financial year 1990/1991. This was to be achieved by the containment of recurrent expenditure, given Zimbabwe's relatively high tax ratio (*Zimbabwe Government 1991*).

Part of the adjustment was to be achieved through improved cost recovery, which would increase non-tax revenues. The deficit of the public sector was projected to decline by more than that of the central Government deficit. The main reasoning was that some public enterprises that ran large operating losses would be generating profits by the financial year 1994/1995, while others were expected to break even (*Zimbabwe Government 1991*).

Given the rate of inflation at the time, fiscal adjustment was going to be "front-loaded". That is, the central government budget for the financial year 1991/1992 was to include policy measures to reduce the budget deficit by 2% of GDP. The front loading of the fiscal adjustment was intended to release resources early in the program to support the restructuring of production in the private sector (*Zimbabwe Government 1991*).

The cut in net recurrent expenditure over the program was to be achieved by:

- virtual elimination of subsidies to public enterprises (3.7% of GDP in 1990/1991),

- reduction in the civil service wage bill (from 16.5% of GDP in 1990/1991 to 12.9% of GDP in 1994/1995),
- public service monopolies to remain in government hands, but to be rehabilitated as commercially viable enterprises,
- viable commercial entities operating in a competitive environment to be operated on a commercial basis,
- non-viable commercial or industrial entities to be liquidated,
- entities with a social role which duplicates that of another entity to be closed or merged, and
- entities with a valid social role to be maintained in government hands and rehabilitated (*Zimbabwe Government 1991*).

In terms of the background to monetary policy and financial sector reform, the accelerated inflation and the deterioration in the balance of payments were associated with the rapid expansion of domestic credit and monetary aggregates. The program was to focus on monetary and credit policy to reduce the rate of inflation to 10% by 1995, consistent with the fiscal and balance of payments targets (*Zimbabwe Government 1991*).

As the fiscal deficit was brought under control, the government was committed to eliminating, in stages, the system of administered interest rates by 1995. By then, the government had hoped to refrain from the policy of setting interest rates on government stock of all maturities, allowing interest rates to be determined by market forces (*Zimbabwe Government 1991*).

During this transition period to a fully market-determined interest rate, the authorities would enforce monetary restraint (*Zimbabwe Government 1991*).

Efficiency in the financial sector was to be considerably enhanced by the entry of new banks and other financial institutions, both domestic and foreign. Further, a gradual approach was to be adopted. The aim was to increase domestic competition between financial institutions by 1993 (*Zimbabwe Government 1991*).

The government was also committed to a phased process of trade liberalization and to move from a foreign exchange allocation system to a market-based system by 1995. This program was to be phased in over five years to allow stronger sectors to benefit from the removal of constraints on their export performance, while permitting weaker sectors to adapt and new investment to take place as opportunities became available (*Zimbabwe Government 1991*).

As the foreign exchange allocation system would be phased out, tariffs would be the only principal source of modest protection for local producers. Almost all tariff rates would range from 0 to 30% from 1991 onwards. The surtax on imports, which was then 20% across the board, would be reduced to 10% by 1993 (*Zimbabwe Government 1991*).

The government recognized that import liberalization needed to be underpinned by an appropriate exchange rate policy. The average real

exchange rate against Zimbabwe's major trading partners had already fallen by 20% over 1989 and 1990. This had increased market incentives for exporters and made local producers more competitive vis-à-vis imports. The government's policy was to maintain an exchange rate regime, which would continue the existing resource shift in favor of export sectors, and sustain export competitiveness. This was expected to support exports and promote efficient import competition (*Zimbabwe Government 1991*).

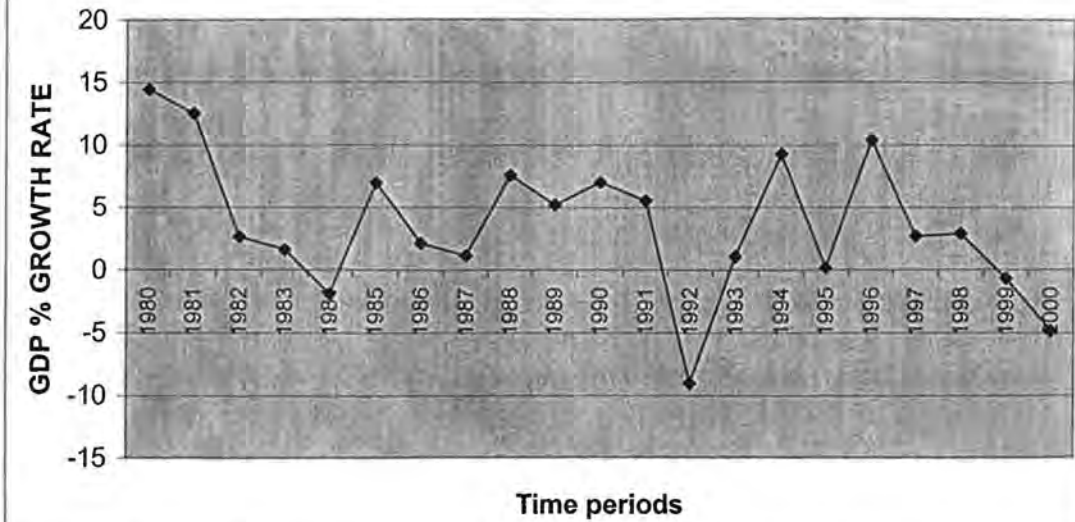
3.3 Economic structural adjustment programs: results and lessons learnt

Drawing on research on Zimbabwe's economy during the structural adjustment program period, Carter (n.d) presents the following results of the economic structural adjustment program in operation over the 1990-1995 period.

- a) **Economic recovery and sustained growth:** The planned GDP growth of 5% for Phase 1 (1990-1995) was hardly reached, partly due to the drought of the early 1990's. During Phase I, the average growth rate was 1.6%. Graph 3.0 shows the annual GDP growth over the 1980 to 2000 period.

Agriculture, a traditional export earner, had an average production growth rate of about 1.5% per annum over the 1990-1995 period. It never reached the required policy growth rate of 3.2%.

Graph 3.0: Annual GDP Growth, 1980 - 2000 (%)



Source: *World development indicators, 2004*, World Bank [accessed online] <https://www.library.uq.edu.au/ezp.php?url=http://devdata.worldbank.org/data/online/> on 13/09/04.

However, Zimbabwe's horticultural exports were the only noticeable success. In 1985, this Zimbabwean high value exporting industry was valued at only Z\$ 3 million; it exceeded Z\$1.2 billion in 1997, with very successful European exports and a boom in rose exports.

Mining, a key industry in Zimbabwe's export sector, performed badly in the later years of the policy. Virtually all-metal prices fell. The huge Hartley Platinum project (a joint venture with BHP of Australia - which invested US\$ 264 million for its 67% stake - and Delta Gold who owns the other 33% stake) was planned to produce 3% of the world's supply in 1997. Unfortunately, this target was never reached.

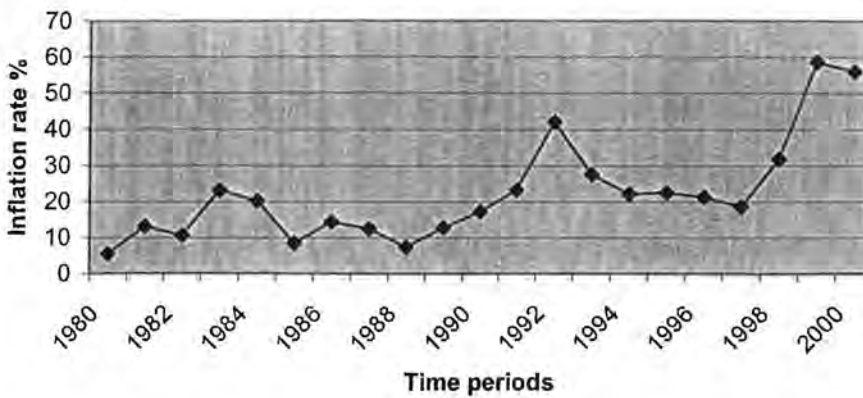
During the period between 1990 and 1995, the annual growth rate for the manufacturing sector was about 1.3%. This sector of the economy did not even come close to reaching the required growth rate of 5.8% set in policy document.

The slowdown in manufacturing was reflected in the general slowdown of activity, especially in the investment goods sector. Whilst devaluation boosted exports, domestic demand fell sharply in the vehicle, construction and investment goods sectors.

- b) **Financial resources:** Devaluation aided exports in Z\$ terms, but not in US\$ terms. In 1996, the balance of payments was healthy, with a trade surplus of US\$275 million. This, along with net capital inflows of some US\$250 million, ensured a modest overall balance of payments deficit of US\$ 50 million. With healthy exports of tobacco, gold and tourism, the balance of payments position remained quite stable until adversely affected by the deteriorating Zimbabwe dollar.

- c) **Economic efficiency:** Inflation averaged more than 20% in Phase 1(1990-1995), with bank base interest rates reaching in excess of 40%. Graph 3.1 shows that from 1990 inflation increased, reaching a rate of about 43% in 1993. It dropped somewhat from this level in 1994 but stayed above 20% until 1998.

Graph 3.1: Inflation, consumer prices (annual %)



Source: *World development indicators, 2004*, World Bank [accessed online]<https://www.library.uq.edu.au/ezp.php?url=http://devdata.worldbank.org/dataonline/> on 13/09/04.

- d) **Exchange rates:** In spite of rising tobacco exports, the collapse of imports in 1997 as a result of devaluation was followed by dramatic Z\$ exchange rate collapse. From an exchange rate of US\$ 0.4 to Z\$1 in 1985, and in 1996 stood at Z\$40 to US\$1.

- e) **Employment creation and wages:** Real per capita incomes had changed little from their 1980 Independence levels up until the start of ESAP. But, from the adoption of EASP there was a steep decline in real wages (Marengo, 1997).

The population was increasing at 3.1% per annum and, with a estimated 300,000 school leavers coming onto the labor market annually and employment growth of a mere 15,000 jobs a year, unemployment levels, were estimated at about 33%. The school

leavers' situation was exacerbated by the number of retrenched civil servants (part of the ESAP policy), urban drift and high inflation.

There were some positive signs in the service industries – with new firms in telecommunications, insurance, and banking. But these were not large enough to 'mop up' the high unemployment.

- f) **The Public Sector and the budget:** Due to the lack of transparency, the budget situation is both difficult to assess and confusing. What is known is that the budget deficit had been unacceptably high in conventional terms (ranging from between 2% and 10% of GDP between 1990 and 1995).

Privatization was being tackled, but in a generally ambivalent and confused matter. The public sector wage bill still absorbed some 30% of current spending, and service quality was not good.

- g) **Social aspects:** The removal of food subsidies led to many Zimbabweans not being able to afford the most basic goods. Removal of subsidies on medical services meant that the majority of the population stopped seeking treatment because they could not afford it. In rural health centers that remained open, critical drugs were always out of stock.

h) **Disinvestment by Government in the public sector has been rather slow:** All but one of the large Agricultural marketing boards had been privatized; but the 'take up' by locals was limited. However, the government had not privatized other state-owned enterprises that had been running at losses. For example, the Zimbabwe Electricity Supply Authority was still owned by the government and still continued to run at a loss.

Hawkins (1994) provides a precise summary of the lessons that were learned. These are discussed below. The first lesson relates to institutional decay. That is, the best policies are not going to work without the institutional capacity to implement them. For example, the inadequate telecommunications system is a deterrent to investment; and the public service is demoralized and demotivated. The police system, the health system, and the education system all face serious under-funding.

The second lesson is the need for accelerated implementation. Achieving this against the background of the institutional capacity constraints, already identified, is a major problem. The fact is that Zimbabwe has been living with policy uncertainty for as long as anyone can remember. This uncertainty is perpetuated and deepened by uneven implementation.

The third lesson is the nature of the public sector reform. The arbitrary decision to retrench 25% of the civil service- excluding teachers and nurses - was a meaningless exercise. The civil service needs a root-and-branch reform, not just number shedding.

The fourth lesson is that even when the supply response is achieved, it is not going to solve Zimbabwe's single most important problem – unemployment. In Zimbabwe, investment of some US\$800 million in the last two and a half years has generated less than 35 000 new jobs.

The final lesson concerns time frames. There is just no way that – given institutional decline, not to mention infrastructure decay in most African countries – that a three- or a five-year time horizon for structural reform makes any sense. Building and rebuilding of institutional capacity is going to take decades rather than years. There has to be culture change and that is not achieved in five years. Structural adjustment is going to take far longer than people have been led to believe.

3.4 Summary

This chapter has presented a brief history of the Zimbabwean economy. It highlighted important features such as the Unilateral Declaration of Independence and the nature of the Zimbabwean economy at the time of independence in 1980. In the context of this background the reasons the structural adjustment program implemented in Zimbabwe in 1990 were explored. These reasons included: foreign currency shortages, an anti-

competitive environment, high unemployment, high inflation, price controls, low levels of growth and persistent government deficit.

Results of the structural adjustment program were discussed. The overall consensus of research is that the results achieved were far from the intended ones. With GDP growth not reaching the expected 5% per annum, government expenditure never decreased by the required levels, investment rose but did not reach the levels needed to attain growth, privatization was slow and the removal of subsidies on goods left many Zimbabweans unable to afford basic food items.

Lessons learnt from the program were summarized. These lessons included: the problem of institutional decay, the problem of short time frames and the need for public sector reform.

Having discussed the literature on economic structural adjustment programs and explored the reasons for, and the results of, such a program in Zimbabwe, a model of the Zimbabwean economy is developed in the next chapter. This model is then used in Chapter five to evaluate alternative policies to those of ESAP.

Chapter 4

Methodology

4.0 Introduction

The main objective of this chapter is to develop a simulation model of the Zimbabwean economy that will be used in the application and evaluation of alternative policies and to apply and evaluate alternative policies.

This chapter is organized as follows:

- 4.1: *Theoretical framework.* This section discusses the theoretical framework used in the development of the model. It also highlights why this particular framework was chosen for the modeling.
- 4.2: *Development of the model.* In this section, the model is specified, model inputs defined, and an overview of the modeling is given.
- 4.3: *Alternative policies.* The alternative policy settings to be tested using the model developed in section 4.2 are introduced in this section.

4.1 Theoretical framework

John Maynard Keynes , in *The General Theory of Employment, Interest and Money (1936)*, explained how interest rates and total output (aggregate output or, equivalently, aggregate income) in the economy are determined, given a fixed price level. Keynes was especially interested in understanding movements of aggregate output because he wanted to explain why the Great Depression had occurred and how government policy could be used to increase employment in a similar economic situation.

In his 1936 work, Keynes introduced two important theories. First, he introduced the notion of aggregate demand as the sum of consumption (C), investment (I), Government spending (G) and net exports (NX). This relationship is summarized as follows: $Y = C + I + G + NX$

Second, he argued that full employment could be maintained only with the help of government spending. Keynes highlighted the importance of Governments in time of the depression recession and how their spending could induce a recovery (Bannock, Baxter & Davis 1998). Keynes argued that a recession was not a long-run phenomenon, which could be left to the markets to sort out. A recession was simply a short-run problem stemming from a lack of demand. If the private sector was not prepared to spend to boost demand, the government should spend instead. It should do this by running a budget deficit and, when the recession was over and the private sector expenditure had recovered, the government could trim its spending and pay off the debts accumulated during the recession. Keynes' idea was to balance the government budget in the medium run, but not in the short run (Bannock, Baxter & Davis 1996).

According to Bannock, Baxter & Davis (1996) Keynes' work supports the following four propositions:

1. 'Aggregate demand plays a decisive role in determining the level of real output.

2. There is no automatic tendency for the level of savings and investment to be equal, as the level of investment is not primarily determined by the rate of interest.
3. As a result, economies can settle at positions with high unemployment and exhibit no natural tendency for unemployment to fall.
4. Governments, primarily through fiscal policy, can influence aggregate demand to cut unemployment' (Bannock, Baxter & Davis 1996, p. 232).

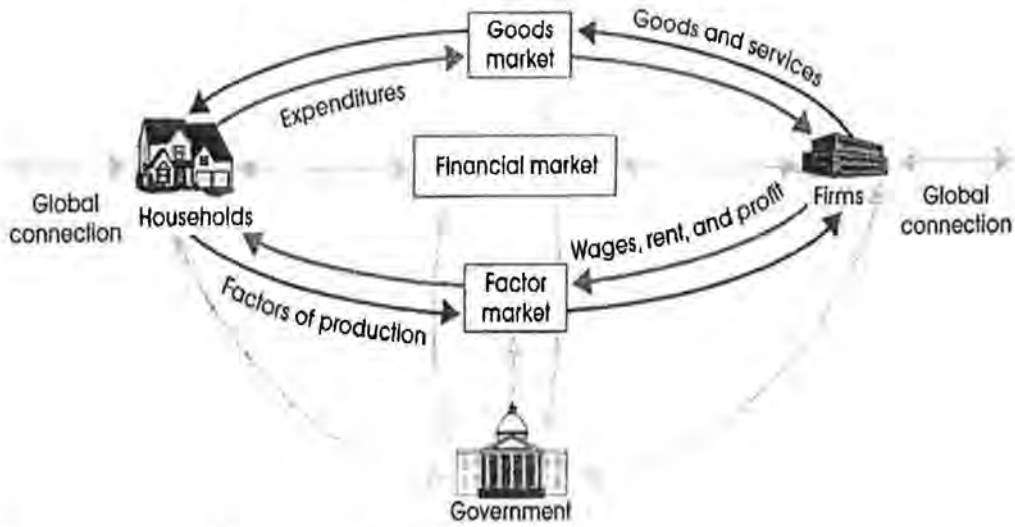
For the purposes of this dissertation, a Keynesian framework serves as the theoretical framework because it highlights the importance of the government in an economy. To this extent, Keynes (1936) argued that when there is market failure the government should intervene to correct the failure. That is, by assuming non-neutrality of money, an increase or decrease in government expenditure would lead to an increase or decrease in aggregate demand respectively. In Chapter 2 it was noted that, in developing countries, government intervention in markets cannot easily be reduced without first ensuring this sector employs around 60% of the population and contributes to a relatively large proportion of aggregate demand.

4.2 Development of the model

As previously indicated, the current model is based on a simple Keynesian framework. By way of illustration, the circular flow model will be used to show how sectors of the economy interact. This model depicts the flow of goods, services and funds among households, firms, government, and foreigners

(Colander & Gamber 2002). The circular flow model is illustrated in Figure 4.1.

Figure 4.1. Circular flow diagram



Source: Colander, D & Gamber E. 2002, p.99.

As indicated in Figure 4.1, firms sell goods and services to households in the goods market; households supply the factors of production in exchange for income in the factor market; and households and firms both borrow and save in the financial market.

The connection between households, firms and the international sector exists because households may decide to sell their labour internationally to obtain a wage from overseas, or buy goods and services from overseas and to hold savings abroad. Firms may also obtain factors of production from overseas as well as selling their services and goods overseas and attract foreign investment.

From Figure 4.1, it can be seen that the Government sector has a direct relationship with all the other sectors in the economy. The first relationship is between households and firms. This relationship is simple as the government obtains revenue from both via taxes. Equivalently, the government sector also gives back transfers (e.g. subsidies and childcare assistance) to households and firms.

The second interaction exists between the Government and the factor market. The government obtains factors of production and in return pays for the use of the factors of production obtained.

The third interaction is between the Government and the goods market. The Government also interacts with the financial market. It, like any other sector, borrows and saves via the financial sector.

The fourth relationship is with the international sector. This relationship shows that governments may choose to obtain factors of production and funds internationally.

The circular flow diagram shows an important aspect of the economy: each component is linked together in one way or another. Therefore, a change in one component will lead to a change in another component. Thus, the model designed must be able show the all these effects when there is a policy change.

From the circular flow diagram, four components of an economy's GDP become apparent. These are, consumption, investment, government spending and net exports. These are the components that are paramount in the Keynesian framework. However, in this dissertation a developed version of the Keynesian equation that was presented on page 50 will be used. The equation has all the elements of the Keynesian equation, and explicitly incorporates a multiplier effect. As mentioned earlier, the model has to be responsive to the relationships among all of the elements. Explicit inclusion of the multiplier allows for this to be achieved. For the purposes of this dissertation, net exports (NX) are assumed to be autonomous. The equation underlying the model is given below:

$$Y = 1/1-C_1 [C_0 + I + NX + G - (C_1T)]$$

Where:

Y = Gross domestic product;

$1/1-C_1$ = the multiplier;

C_0 = autonomous consumption;

I = investment;

G = government expenditure;

NX = net exports;

C_1 = marginal propensity to consume; and

T = taxes (assumed to be autonomous).

4.3 The Model

The approach to modeling the Zimbabwean economy taken in this dissertation is to develop a simulation model using STELLA Research Software (High Performance Systems, Inc. 2000). Development of the model is undertaken in two phases.

Relying on historical data, phase one of the modeling process seeks to replicate the dynamics of the Zimbabwean economy for the period 1980 to 1998. In this phase of the modeling process, trend and sensitivity analyses are performed on the original data.

In phase two of the modeling process, forecasts are undertaken of the relevant variables and the effects of alternative policy applications are assessed, with a view to determining:

- whether the alternative policies would have been more successful than the economic structural adjustment program implemented in 1990.

The model inputs (consumption, investment, government spending, net exports and GDP) are explained below.

4.3.1 Consumption function

Bannock, Baxter & Davis (1998, p.76) define the consumption function as “the relationship between consumption and disposable income”. This relationship shows that as disposable income increases, *ceteris paribus*, consumption will increase, though not at the same rate as disposable income in the short term.

However, the exact relationship between disposable income and consumption only holds constant under a number of assumptions:

- 'there are no expected price level changes which might delay or bring forward consumption, and
 - no change takes place in the availability or the cost of credit'
- (Bannock, Baxter & Davis 1998, p. 76).

Blanchard (2000, p. 44) denotes the functional relationship between consumption and disposable income as follows,

$$C = C(Y_d)$$

Where:

C = consumption; and

Y_d = disposable income.

Blanchard (2000, p. 44) assumes that the relationship between consumption and disposable income can be given by the linear function:

$$C = C_0 + C_1(Y_d).$$

Where:

C_0 = autonomous consumption; and

C_1 = marginal propensity to consume.

The two parameters (C_0 and C_1) characterize the relationship between consumption and disposable income. C_1 shows the effect of spending an additional dollar of disposable income on consumption. However, there are some restrictions placed on the values of C_1 . First, it is positive. This indicates that an increase in disposable income will lead to an increase in

consumption. Second, C_1 is less than 1. That is, consumers will consume only part of any increase in income, and save the rest.

Parameter C_0 has a simple interpretation. It is what consumers would consume if their disposable income in the current year were equal to zero. Given these assumptions and restrictions the extended equation for the function may be written as follows:

$$C = C_0 + C_1 (Y - T)$$

Where:

Y = income; and

T = taxes.

Thus, consumption is a function of income less taxes. Higher income is assumed to increase consumption and higher taxes to decrease consumption.

A simple regression was undertaken to determine autonomous consumption in the case of Zimbabwe. The relationship is given by:

$$C = a + b_i (\text{disposable income}) + e_i$$

Where:

C = consumption,

a = intercept term (which was calculated to be 5.483(B)),

b_i = the slope of the line (which was calculated to be 0.469), and

e_i = the random error term.

Therefore, the regression equation becomes:

$$C = 5.483B + 0.469 (\text{disposable income}) + e_i$$

According to Blanchard (2000), autonomous consumption is consumption when disposable income equals zero. Therefore, the intercept of the regression line was used as the value for autonomous consumption.

The marginal propensity to consume (MPC) was taken to the value for the slope of the line 0.469.

4.3.2 Net exports (NX)

For simplicity, and due to the lack of data, net exports (NX) were modeled simply by subtracting imports from exports.

4.3.3 Government expenditure

Government expenditure is assumed to be exogenous. The rationale for this assumption is based on two considerations:

First, governments do not behave with the same regularity as consumers or firms. Therefore there is no reliable rule that could be written for government expenditure. Second, one of the tasks of macroeconomists is to advise governments on spending and tax decisions. Therefore, it would be unwise to look at a model in which a behavioral assumption has already been made (Blanchard 2000, p. 46).

4.3.4 Investment

Blanchard (2000, p. 83) suggests that private sector investment depends primarily on two factors:

- 1. The level of sales.** A firm facing an increase in sales needs to increase production. To do so, the firm may need to invest in additional capital equipment. A firm facing low sales will feel no such need and will spend little if anything on investment.

2. **The interest rate.** Basically, the higher the interest rate, the less likely the firm is to borrow and invest in capital equipment. At a high enough interest rate, the additional profits from the new capital equipment will not cover the interest payments.

The investment relationship can be written as follows;

$$I = I(Y, i)$$

Where:

I = investment;

Y = production; and

i = nominal interest rate.

This equation states that investment depends on the level of production and nominal interest rates. In this model which uses real data, it is assumed that expected inflation equals zero. This means that the nominal interest rate (i) is equal to the real interest rate (r). Thus, the investment relationship is denoted as follows;

$$I = I(Y, r)$$

Where:

r = real interest rate.

Due to inadequate production data, investment in this model is determined solely as a function of the real interest rate. To develop this function, a simple regression was run between investment and real interest rates. The regression equation obtained is as follows:

$$I = a - b_1(\text{real interest rate}) + e_1$$

Where:

I = investment;

a = the intercept (which was calculated to be 3.407B);

b_i = the slope of the line (which was calculated to be 7.177); and

e_i = random error term.

The estimated regression equation is:

$$I = 3.407B - 7.177 (\text{real interest rate}) + e_i$$

As indicated in the equation, the relationship between investment and real interest rates is negative. That is, as real interest rates decrease, investment increases, and vice versa. Due to rapid increases and decreases in the real interest rate data, a first-order exponential smoothing technique was applied to the real interest rates.

4.3.5 Gross domestic product (GDP)

As previously discussed, the value for GDP is the summation of consumption, investment, government expenditure and net exports. To account for the secondary effects of policy changes, a multiplier is incorporated in the model.

4.4 Alternative Policies

As previously discussed, phase two of the modeling process is concerned with simulating alternative policies with the model. Two alternative policies are presented. The first policy alternative is to increase government expenditure, the second policy alternative is to decrease the real interest rate.

The increase in government expenditure is representative of an expansionary fiscal policy. That is, by increasing government expenditure, the government will effectively run budget deficits to achieve its objectives. Given the nature of the Zimbabwean economy in 1990, the policy will involve an increase in capital expenditures. As a result of the increase in capital expenditures, it is concluded that there will be an increase in employment in the economy.

This focus was noted in the literature review. Stiglitz (2000) put forward the idea that in sub-Saharan African countries the notion of reducing government expenditure and limiting its involvement in the economy is not the best policy. This is mainly due to the fact that the government is the largest employer and is the only institution that can foster economic growth.

Begg, Fischer & Dornbusch (1994) discuss the effects of an increase in government expenditure on an economy as a whole. These effects are identified in Table 4.1.

Table 4.1 Effects of an increase in government expenditure

Cause	Round 1	Round 2	Round 3
Increase in government expenditure	<ul style="list-style-type: none"> • increase in GDP 	<ul style="list-style-type: none"> • increase in income • increase in disposable income • increase consumption • increase in GDP 	<ul style="list-style-type: none"> • increase in consumption and GDP • increase in real interest rates • appreciation of the exchange rate • decrease in exports • increase in imports • decrease in GDP

Table 4.1 shows that there are three sets of effects that are expected from this change, with both the second and third round effects expected to be captured by the multiplier. The first round effect of an increase in government expenditure is an increase in GDP.

The second round effects of this policy are that an increase in government expenditure leads to an increase in disposable income, and a consequent increase in consumption. It is expected that an increase in consumption will lead to a further increase in GDP.

As indicated in Table 4.1, initially the third round effect leads to an increase in consumption and a further increase in GDP. This increase in GDP is expected to lead to an increase in interest rates. An increase in interest rates leads to an appreciation of the exchange rate, a subsequent decrease in exports, an increase in imports and a decrease in GDP.

Although there is a decrease in GDP in round three, the initial increase in government expenditure should be high enough to equal and exceed this decrease in GDP for the policy to have the desired effect. For the purposes of this policy application, government expenditure has been increased by Z\$500 million.

The second, alternative policy involves reducing the real interest rate by 0.25%. Blanchard (2000) describes this as being representative of an expansionary monetary policy. The idea is that lower interest rates will allow firms and individuals to borrow money for capital investments at a lower cost. This will encourage investment. Begg, Fischer & Dornbusch (1994) describe the expected effects of this type of policy. These effects are summarized in Table 4.2.

Table 4.2. Effects of a decrease in interest rates

Cause	Round 1	Round 2	Round 3
Decrease in interest rates	<ul style="list-style-type: none"> • increase in investment • increase in GDP 	<ul style="list-style-type: none"> • increase in investment • increase in income • increase in disposable income • increase in consumption • increase in GDP 	<ul style="list-style-type: none"> • exchange rate depreciation • increase in exports • decrease in imports • increase in GDP

The round one effect is straightforward. A decrease in interest rates leads to an increase in investment because the cost of funds is lower. This leads to an increase in GDP. Round two involves income increasing because of the increase in investment. This is mainly due to higher wages and more jobs being created by the investment. This increase leads to an increase in disposable income, which leads to an increase in consumption. In turn, the increase in consumption will lead to an increase in GDP.

The decrease in interest rates causes the exchange rate to depreciate. This leads to an increase in exports and a decrease in imports. It follows from this that, as net exports increase, GDP will also increase.

4.5 Summary

In the first section of this methodology chapter, a simple macro-economic theoretical framework was introduced. The framework was then used to develop the Zimbabwean economic model. Reasons for the choice of the theoretical framework were presented.

In the second section of the chapter, the model used in this study was developed. The circular flow diagram, showing the interrelationships within the economy provided a guide for the model's development.

Finally in the last section of the Chapter, alternative policy settings that are to be run using the model were introduced. The expected effects of such policy changes were then canvassed in terms of the underlying economic theory. Chapter five will present and discuss the results of both phases of the modeling process.

Chapter 5

Results

5.0 Introduction

The chapter presents and evaluates the results that were obtained from phase one and phase two of the modeling process.

This chapter is organized as follows:

- 5.1: *Results and evaluation of modeling the Zimbabwean economy (phase one)*. In this section, the results of the application model of the Zimbabwean economy are presented. As stated in Chapter 4, the evaluation of the results is undertaken in terms of trend and sensitivity analysis.
- 5.2: *Results and evaluation of alternative policies (phase two)*. In this section, the results of the simulation of the alternative policies are presented. They are evaluated by comparing the base data to the forecasted results for the alternative policies.

5.1 Results and evaluation of the economic model: phase one

Overall, the model yields results that are reasonably close to the actual data for the period. Even though the model is overestimating, graphical analysis of the results shows that the model forecasts are generally mirroring the patterns of the original data, but with some overestimation.

One case of large overestimation is evident with net exports. The reason why this has occurred is that smoothed data for exports and imports were used, rather than forecasts based on prior modeling. Therefore, it is to be expected that the results obtained for net exports would differ from the actual net exports data.

This overestimation by the model does not present a initial problem for two reasons. First, net exports do not play a pivotal role in the design and outcomes of the alternative policies. Second, the main aggregate figure for comparison is real GDP. Real GDP has a relatively low average percentage error of 14.28%. Therefore, to a certain extent, the model does portray the Zimbabwean economy over the period 1980-1998. Results for particular variables are discussed below.

5.1.1 GDP

Over the two control years (1999 and 2000) the model, on average, gives an error of 14.28%. This is shown in Table 5.0. In 1999, the model underestimated by about 1.5 Z\$B and, in 2000, overestimated by about 5.69 Z\$B.

Table 5.0. GDP results (billions of Z\$)

Year	GDP	Forecasted GDP	Absolute Difference	Percentage difference
1999	26.40	24.84	1.56	5.9
2000	25.10	30.79	5.69	22.66
			<i>Average percentage difference</i>	14.28%

5.1.2 Government expenditure

From the results obtained, the average percentage difference for government expenditure is estimated at 28%. For 1999 the model underestimated by about 3 Z\$M and, in 2000, it overestimated by about 2.4 Z\$M.

Table 5.1 Government expenditure results (Z\$B)

Year	Government expenditure	Forecasted government expenditure	Absolute Difference	Percentage difference
1999	3.3	3.0	0.30	9
2000	5.1	7.5	2.40	47
			Average percentage difference	28%

5.1.3 Net exports

Table 5.2 shows that the model overestimates net exports. The average percentage difference was estimated at 107.5%. The cause for this problem was discussed earlier in the previous chapter.

Table 5.2 Net exports results (Z\$M)

Year	Net exports	Forecasted net exports	Absolute Difference	Percentage difference
1999	-36	64.04	100M	164
2000	460	222.98	237M	51
			Average percentage difference	107.5%

5.1.4 Consumption

Over the control years, 1999 and 2000, the model is overestimating. In 1999 and 2000 it overestimated by 1.4 billion and 1.7 billion respectively. The

average percentage error was estimated to be 10.6%. These results are shown in Table 5.3.

Table 5.3 Consumption results (Z\$B)

Year	Consumption	Forecasted consumption	Absolute Difference	Percentage difference
1999	16.60	18.03	1.43	8.6
2000	13.50	15.22	1.72	12.7
			Average percentage error	10.6%

5.1.5 Investment

Table 5.4 shows that, on average, the model for investment is overestimating. In 1999, the model underestimated by 0.23 Z\$B and, in 2000, the model overestimated by 0.71 Z\$B. However, the overall percentage error for investment is estimated at 16%.

Table 5.4 Investment results (Z\$B)

Year	Investment	Forecasted investment	Difference	Percentage difference
1999	3.59	3.36	-0.23	-6
2000	2.66	3.37	+0.71	27
			Average percentage error	16%

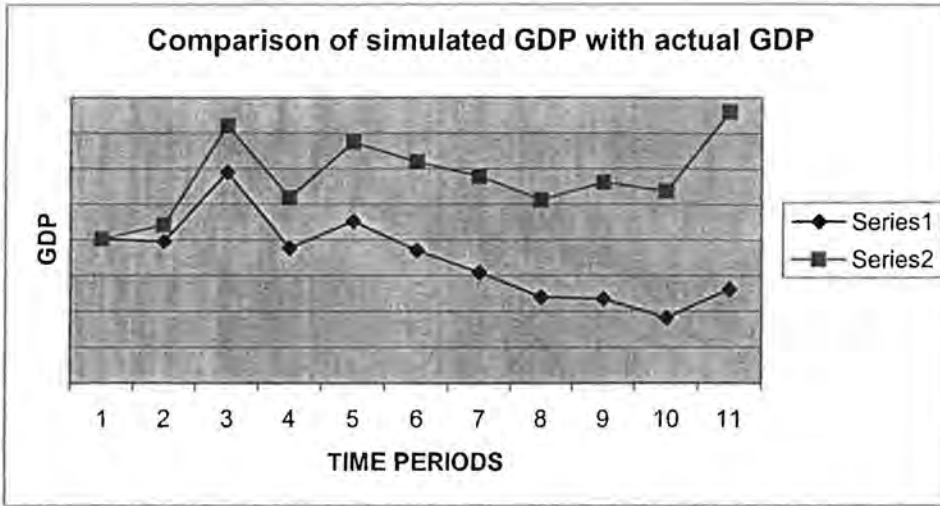
5.2 Results and evaluation of alternative policies: phase two

5.2.1 Government Expenditure

The government expenditure policy run on the model was an increase in government expenditure by Z\$M 500. Table 5.5 and Graph 5.5 show the results of the alternative policy. Graph 5.5 shows that a Z\$M 500 increase in 1990 leads to a increase in GDP over the 1991 – 2000 period.

Graph 5.0 Policy alternative one: Increase in government expenditure,

Z\$500m



Notes:

- Series one represents, the original data and
- series two representing the alternative policy results

Table 5.5 Policy alternative one: Increase in government expenditure of Z\$500m

YEARS	GDP RESULTS (Z\$B)	GDP RESULTS WITH \$500m GVT EXPENDITURE INCREASE (Z\$B)
1990	40.1	40.1
1991	39.4	44.0
1992	58.9	72.1
1993	37.5	51.8
1994	45.2	67.4
1995	37.0	61.8
1996	30.7	57.8
1997	23.9	51.1
1998	23.4	56.0
1999	18.1	53.6
2000	26.1	76.0

From Table 5.5, it is evident that in period 1992 GDP rose to Z\$72. However, in the next period it decreased to Z\$51b, but it was still higher than the actual GDP of Z\$B 37. From this period (1992) onwards, GDP fluctuates

around the mid to high Z\$B 50s. However, the overall trend for the results is upward, as shown in Graph 5.0.

5.2.2 Interest rates

The alternative interest rate policy run on the model was a decrease of 0.25% over the 1990-2000 period. Table 5.6 and Graph 5.1 show the results of the alternative policy.

Graph 5.1 Policy alternative two: decrease in interest rates of 0.25%

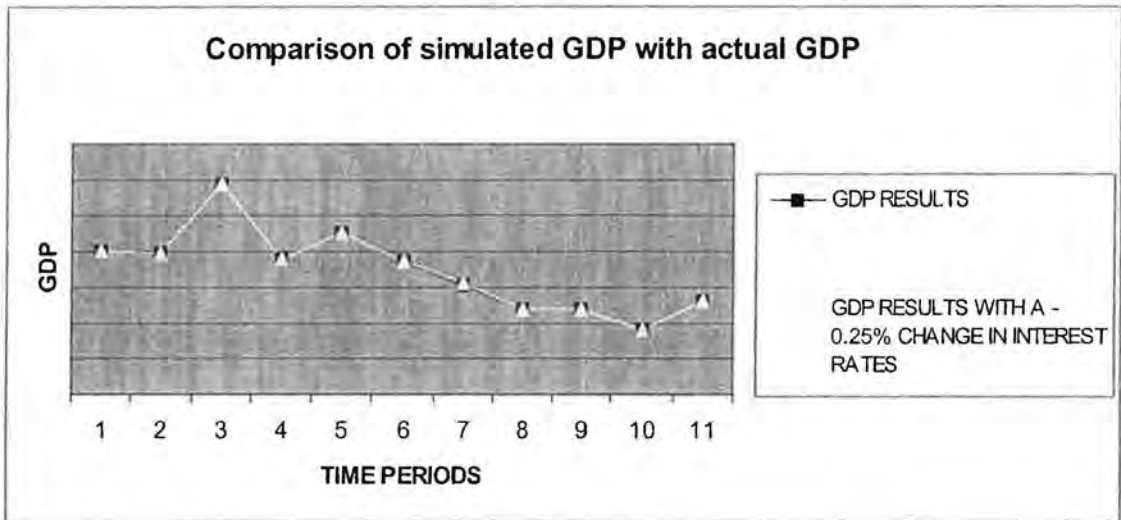


Table 5.6 Policy alternative two: decrease in interest rates of 0.25%

YEARS	GDP RESULTS (IN Z\$B)	GDP RESULTS WITH A -0.25% CHANGE IN INTEREST RATES (IN Z\$B)
1990	40.112	40.112
1991	39.451	39.456
1992	58.967	58.978
1993	37.597	37.613
1994	45.205	45.226
1995	37.003	37.029
1996	30.735	30.766
1997	23.905	23.941
1998	23.487	23.529
1999	18.105	18.152
2000	26.177	26.230

As is shown in Table 5.6 and Graph 5.1, when interest rates were decreased, GDP increased overall, but not by a big margin. When the interest rate was decreased by -0.25%, GDP increased by about Z\$M 20.

The relatively small increase in GDP might be explained in terms of how the investment relation was modeled. With the use of regression analysis to model investment, the increase in GDP, or even investment, could be expected to be systematic. That is, by running a regression between interest rates and investment, an average equation on the data is effectively created and used to forecast. Therefore any change in interest rates could be assumed to have an averaged effect on investment and GDP.

5.3 Summary

This chapter presented the results of the model of the Zimbabwe economy developed in the study and for the simulation of alternative policies using that model. Despite general overestimation being shown by the model, it was concluded that the model was appropriate for analysis of the alternative policies. Using the model, two alternative policies were simulated and the results presented. The first alternative policy, an increase in government expenditure by Z\$M 500, resulted in a increase in GDP. The second alternative policy, a cut in interest rates by 0.25%, resulted in a small increase in GDP.

Given these results, the final chapter concludes the dissertation; it highlights the limitations of the study and presents further possible areas of research.

Chapter 6

Summary and Conclusions

6.0 Summary

The main aim of the dissertation, as outlined in Chapter one, was to develop an economic simulation model of the Zimbabwean economy using historical data for the period 1980-2000. This model was developed using STELLA 8 software. The model developed was used to cater for the second aim of the dissertation; the simulation of alternative policies to ESAP. In Chapter four, this exercise was called 'phase one' of the modeling.

In chapter two, a brief discussion of the theoretical framework underlying economic structural adjustment was presented. Drawing heavily on Stiglitz (2000), ESAP was discussed in terms of the three main pillars of the 'Washington Consensus': budget austerity, privatization and liberalization

Problems arising from the consensus were identified. First, as had been suggested by Blanchard (2000), budget austerity could cause a recession in developing countries because it would effectively reduce aggregate demand.

Second, as argued by Stiglitz (2002), liberalization was likely to enhance a country's income but, if not implemented properly, could lead to high levels of unemployment with local firms being forced out of business by foreign competitors. Finally, as Stiglitz (2002) noted, privatization faces

implementation problems. Preconditions have to be satisfied before privatization can contribute to an economy's growth, and the way privatization is implemented makes a big difference to economic performance.

In chapter three, a discussion of the Zimbabwean economy was presented. The discussion covered a range of aspects that were important for this dissertation, for example, the Unilateral Declaration of Independence, the nature of the Zimbabwean economy at the time of independence in 1980, and reasons why a structural adjustment program had been implemented in Zimbabwe in 1990. These reasons included: foreign currency shortages, an anti-competitive environment, high unemployment, high inflation, price controls, low levels of growth and a high government deficit.

Results from the implementation of the ESAP program were also presented and discussed in Chapter three. The conclusion of the discussion was that the results achieved were far from the intended ones. With GDP growth not reaching the expected 5% per annum (1990 – 1995), government expenditure never decreased by the required levels, investment rose but did not reach the levels needed to attain growth, privatization was slow, and the removal of subsidies on goods left many Zimbabweans unable to afford basic food items.

Given these results, the lessons learnt from the program were summarized. The lessons included: the problem of institutional decay, the impracticability of short time frames and the need for public sector reform.

In Chapter four the simulation model of the Zimbabwean economy was developed. The development began with a brief discussion of a Keynesian, simple macro-economic framework. This was the framework used to develop the Zimbabwean simulation model. The reasons for the choice of the particular theoretical framework were discussed as well.

Using a circular flow diagram to show the interrelationships among sections of the economy, the model constructed reflected the linkages between the various sectors and assumptions made about the economic relationships. This chapter also presented an introduction to phase two of the modeling process – the alternative policy settings and their expected effects.

In Chapter five the results for both the developed test model (phase one) and the alternative policy simulations (phase two) were presented, together with a discussion of these results. The results of the phase one modeling indicated that the model, in general, was overestimating. However, given the reasons for such estimation, the conclusion reached was that the model was appropriate for the testing of the alternative policies.

The results for phase two modeling indicated that alternative policies may have been preferred. The first alternative policy, an increase in government expenditure, resulted in a large increase in GDP. The second alternative policy, a decrease in interest rates by 0.25%, also resulted in an increase in GDP, but not by a large amount. Therefore, the conclusion reached was that

the chosen alternative policies would have produced better results than the ESAP program.

6.1 Limitations of the research

The main limitations of this research were the paucity of data and the lack of prior research on Zimbabwe's economy. The data used in the modeling of the Zimbabwean economy was obtained from the *World Bank Development Indicators CD-ROM (2004)*. Although essential data was obtained, data for other variables such as money supply, money demand, and investment were unobtainable. This limited the development of a more comprehensive and extensive model needed to test alternative policies. For example, net exports were modeled by simply subtracting exports from imports. If data had been available, imports and exports could have been modeled more adequately. This could have altered the results for the alternative policies. Also other indicators could have been used to evaluate the results. For example, unemployment, inflation, net exports and relative changes in the real income of the population.

Another limitation was the lack of accessible research on Zimbabwe's economy. This complicated the process of developing the test model because there was little prior research from which to begin. Consequently, a highly aggregated test model had to be built to simulate the Zimbabwean economy and test the alternative policies.

This lack of evident research also limited the number of alternative policies tested. The model does, however, present an opportunity to test alternative policies that may be proposed by other researchers. The alternative policies tested in the dissertation were formulated on the basis of the model developed and its ability to test them, with the results mainly focused on GDP changes.

6.2 Implications for future research

As indicated in section 6.1, lack of prior research restricted the development of a more detailed model with superior testing ability. Having developed a highly aggregated model of the Zimbabwean economy, and tested some alternative policies, an opportunity exists for prospective researchers to develop such a model using the STELLA 8 software that can test more detailed alternative policies. For example, the model could be developed to incorporate the determinants of imports and exports, to show unemployment and inflation rates for the economy and income distribution. Such an extension of the model could be used by government to simulate and test prospective policies.

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