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REVENUE PRODUCTIVITY OF THE TAX SYSTEM IN NAMIBIA

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Revenue Productivity of Tax System in Namibia (1967-1997)

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DEDICATION

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TABLE OF CONTENTS

List of Tables

ABSTRACT

This study evaluates the revenue productivity of Namibian's overall tax system and of individual taxes on the basis of estimates of tax buoyancy and elasticities. The main aim of the paper is to raise government awareness to the need in strengthening the existing tax system as a way to generate more revenue to cut down the seemingly widening budget deficits. A study of this nature is needed to encourage the government to act quickly given the major changes which are taking place such as the renegotion of the Southern Africa Customs Union (SACU), which may result in reduction in revenue to the government.

The analysis shows that the tax system in Namibia is highly elastic and also buoyant, as the coefficients, which are more than unity, show. For individual taxes, the high elasticity is found on international taxes such export duty on diamonds, followed by the customs receipts. The direct taxes such as taxes on income and profits are found to be inelastic. It is to be noted that the elasticity of the tax system to a great extent reflects the role played by external factors, which are beyond the control of the government. Namibia, therefore, has to strengthen domestic tax structure and reduce reliance on sources of revenue beyond its control, simultaneously reducing its expenditure.

CHAPTER ONE

1.0 Introduction

Economic growth increases the taxable capacity of a country and enables a larger share of the private sector's resources to be ceded to the government as taxes to provide public goods and services. Many countries depend on taxation as a means of generating the required resources to meet their expenditure requirements. These countries will likely find themselves in growing fiscal imbalance when their revenue productivity falls below their expenditures. The need for fiscal adjustment then becomes particularly necessary to restore balance in the government budget. The efficacy of fiscal adjustment to accomplish fiscal obligations depends on the tax base or capacity relative to the expenditure requirements of the public sector (Kusi, 1998).

A commonly observed phenomenon in many developing countries is that, the public sector plays a dominant role in initiating and financing economic growth. The resultant growth in public spending is expected to be financed by public revenues from taxes and non tax sources, but the revenues always lag behind the level of public spending, leaving large deficits in the fiascoes (Kafe, 1995). The growth in public revenue in developing countries is restricted by many factors such as low per capita income limiting the base on which direct taxes can be imposed, accelerated depreciation rates and tax credits usually provided to the manufacturing sector, and deficiencies in tax administration. On the other hand, public spending continues to grow due mainly to mismanagement, increased public participation in production and control of economic variables, and sheer inability to control spending.

The Namibian Economy is dominated by the service sector to which government services contribute 47% to the GDP. Namibia's nominal current account deficit as Percentage of GDP averaged 10.17% in 1975 to 1984 and improved slightly to an average of 9.5% during 1985 to 1989 (International Financial Statistics, 1996). In 1990, the current account deficit improved significantly to 2.4%, but this trend could not be maintained as the deficit rose from 7.1% in 1991 to a high level of about 10.5% in 1995(Tjirongo, 1995). To counteract this the government tightened fiscal policies as manifested in low budget deficits of 7.7% and 5.4%in 1994and 1996 respectively. Even this does not seem to be adequate because a huge budget deficit of 9.5% was reported for 1997 fiscal year.

1.1. Statement of the Problem

The Namibian government is presently facing problems of widening budget deficits with changes in the region such as the revenue-sharing direction of the Southern African Custom Union, which is likely to have an impact on the revenue side of the government budget. Namibia, since 1939 and until 1989 was incorporated as the fifth South - African province. The Namibian economy is, thus, highly integrated with that of South Africa. Namibia belongs to the Southern African Customs Union (SACU) with South Africa, Botswana, Lesotho, and Swaziland. Together the five countries share a common external trade target and goods allowed to flow across all borders unimpeded by tariffs or other restrictions. Membership of SACU brings costs and benefits: it reduces Namibia's option for setting up tariffs and changing Namibia's competitiveness, while at the same time, Namibia receives significant receipts from SACU, averaging nearly 30% of total tax revenues between 1990 and 1994.

But still South Africa, being the dominant partner, determines the direction of the custom union. High dependence on this source of revenue, namely SACU-revenue, puts the government of Namibia in a difficult position given the uncertainty with this source of revenue and the fact that it is beyond the control of the government and the increasing spending gives reasons for the unsustainable deficits. The government, therefore, has to strengthen domestic sources of revenue, mainly the tax system and engage in cost cutting expenditure.

1.2 Working Hypothesis

Given this background, the specific hypothesis to be tested is that Namibia's tax-system is not sufficiently elastic to allow for an increase in tax-revenue even if the economy is expected to grow.

1.3 Significance of the Study

In reducing the fiscal deficit it is important to be able to project what additional revenue can be mobilized within the existing tax system as the economy grows. This requires an analysis of the revenue sources and their responsiveness to GDP growth. Such an analysis will permit the identification of the sources of fast revenue growth or, conversely, the causes of lagging revenue growth, thereby suggesting measures to adopt to maximize revenue within the existing tax system and/or the need to activate additional means of revenue generation. Knowledge of the responsiveness of tax revenue to economic growth is thus of crucial importance for economic planning purposes since budgetary deficits financed through monetary expansion generally create inflationary problems (Kusi, 1998).

1.4 Objectives of the Study

In the face of widening or large budget deficits and the increasing need for development finance in Namibia, there is a need to devise a more efficient tax system that will be in line with Expenditure:

This study intends to:

(1) Investigate the productivity of the tax-system, to get insight on the potential of the tax-system to raise adequate revenue to bridge the imbalances between revenue and expenditure.

(2) Analyze the relative importance of the different categories of the revenue structure.

(3) On the basis of the above stated objectives, an attempt will be made to propose policy recommendations to solve the problem stated.

1.5 Outline of the Study

This study in all has six chapters, following the introductory chapter, as dealt with above. Chapter two is the survey of literature regarding revenue productivity of a tax system. A brief review on the macroeconomic framework and the tax system in Namibia are presented in chapter three. Chapter four deals with the formulation of the tax buoyancy and elasticity model. Empirical analyses with reference to Namibia's data is provided in Chapter five, and lastly the conclusion of the study and some proposed policy recommendations are provided in chapter six.

CHAPTER TWO

2.0 Literature review

2.1 Theoretical literature review

2.1.1 Definitional Aspects

Most least developed countries (LDCs) including Namibia, are faced with ever-growing government expenditures, which lead to unsustainable deficits. Given such situations, these countries have to find ways to finance these growing deficits. Taxes happen to be such an important source of public income and it is quite usual to talk of tax and non-tax revenues of a government. A tax is a compulsory levy and those who are taxed have to pay the sums irrespective of any corresponding return of services or goods by the government. In other words, a taxpayer does not receive a definite and direct *quido pro quo*[1] from the government. The tax system of a country is an integral part of the overall economic system of the country and is expected to contribute to the achievement of chosen social and economic objectives. An appropriate tax policy brings about the required tax system and manifests itself in the rate structure, tax deterrents and incentives and the like. The primary objective of designing a tax system is to mop up a larger proportion of incremental income due to economic development and hence increases the share of tax revenue as a proportion of GDP over time.

Frequent legislative measures to enhance the rate structure of taxation and/ or expand the tax base to increase tax effort may not be politically expedient.

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[1] *quido pro quo* means something given or taken as equivalent to another.

So, the tax structure should be sufficiently income elastic such that the tax to GDP ratio will increase automatically with economic development. Otherwise, the tax structure will have to be sufficiently buoyant to raise the tax to GDP ratios.

Buoyancy of the tax reflects the overall growth in revenue resulting both from the automatic growth in the base caused by the increase in income and from discretionary tax changes such as changes in the rate structure and / or in tax base. Built- in elasticity, on the other hand, measures the automatic growth in revenue due to changes in income (Osoro, 1993).

According to Kusi (1998) it is desirable that the revenue growth of a tax keeps pace with that of GDP, without frequent discretionary changes made to its rates and structure. This increases the convenience and efficiency of tax administration and it also lessens economic uncertainty associated with tax changes. To achieve this, the tax built-in elasticity coefficient should be equal to or exceed unity.

The elasticity of a tax can be broken down into the product of the elasticity of the tax to the base and the elasticity of the base to income. These two elasticity's can be estimated using the following models (Kusi, 1998): -

$$T_{kt} = \beta_o + \beta_1 B_{kt} + U_{kt} \qquad (2.1.1)$$

$$B_{kt} = r_o + r_1 Y_t + U_{kt} \qquad (2.1.2)$$

where: T_{kt} = tax revenue from tax k, at time t

β_o; r_o = constant terms

β_1= coefficient measuring elasticity of tax to base

B_{kt} = the base of tax k, at time t,

r_1 = coefficient measuring elasticity of base to income

Y_t=GDP at time t (aggregate)

U_{kt} = stochastic error term

An understanding of taxable capacity, the tax effort and measures of tax effectiveness can aid a government of a country in policy formulation, and can also assist donors and foreign lenders in appraising the performance of the government. Aranson (1985) defines tax effort "as a measure of the willingness of a governmental unit to tax its residents." The concept of taxable capacity is intimately connected with the concept of ability to pay, though the two concepts are not equivalent to each other.

The ability-to-pay refers to a method of apportioning a given tax burden amongst the taxpayers. Such a share of a taxpayer according to this apportioning method may or may not exceed his/her capacity to pay. Also the ability-to-pay refers only to the existing set of circumstances and repercussive changes are not brought into account. Taxable capacity on the other hand refers to the maximum tax that might be collected from a particular taxpayer or a group of taxpayers under consideration.

Dalton (1949) refers to taxable capacity, as a common phrase, but a dim and confused conception. The elements in taxable capacity, namely, people's ability to pay and the government's ability to collect, are not precisely measurable - they are intangible factors. For instance, the latter can depend largely on the administrative effectiveness of the tax system, which will depend on the availability of skilled and dedicated revenue staff, and on the cooperation by taxpayers, which will be influenced by social and political attitudes. The former will be mainly dependent on people per capita income in excess of the subsistence level. Since these intangible factors are non-quantifiable, statistical studies have concentrated on tax handles, that is, objects of taxation or economic sectors that can be reached with relative ease (Bhatia, 1980).

In LDCs tax handles are limited, given the nature of these economies, such as the existence of large subsistence sectors, which cannot be easily taxed for administrative and technical reasons, and in some countries because of political sensitivity. LDCs therefore, may have to consider finding alternative taxhandles, increase tax rates if these are already low (Laffer curve effect), and encourage new investment to increase revenue (Dlamini,1995).

Tax effectiveness may be defined as the extent to which the nominal or potential revenue effects of a particular tax are achieved in practice. Comparing nominal or potential tax collections may then measure tax effectiveness, whether the differences are due to tax avoidance and evasion. The revenue collected from the imposition of a particular tax (T) depends on the application of a tax rate (t) to a net revenue base (Y-D), where Y is the gross base and D is the amount deductions allowed in assessing liability for the tax. Thus-(Mathews,1985)

$$T\text{-}t = (Y\text{-}D)$$

The tax rate (t) takes the form of a rate schedule in the case of taxes subject to a progressive rate structure, while in such cases the revenue base (Y-D) needs to be differentiated in conformity with rate schedule. Deductions (D) includes exemptions, exclusions and all other legislated allowances and concessions which take the form of deductions from the gross revenue base – or involve rebates of tax.

To measure the effectiveness of a tax, it is necessary to distinguish between the nominal revenue, which can be collected when it is imposed, and the related actual revenue collections. The nominal revenue (T_n) is derived from the application of the nominal tax rate (t_n) to the nominal revenue base (Y_n –D_n) and represents the revenue which will be collected from the tax if all taxpayers pay the tax at the legislated rate on the legislated base with zero avoidance and evasion. This may be compared with revenue which is actually collected from the tax (T_e) when the

$$T_n = t_n(Y_n - D_n)$$

effective tax rate (t_e) is applied to the effective revenue base- ($Y_e - D_e$). Thus

And

$$T_e = t_e(Y_e - D_e)$$

Tax effectiveness may be measured in two ways. The first approach involve the construction of an index (E) for each tax as the ratio of the actual revenue collected from the tax (T_e) to its nominal yield (T_n):- (Mathews,1985)

$$E = \frac{T_e}{T_n} = \frac{t_e}{t_n}\frac{(Y_e - D_e)}{(Y_n - D_n)} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(1)$$

The higher the value of E, the more effective is the tax. The tax is fully effective if E is equal to unity. Alternatively, tax rate avoidance or evasion and revenue base avoidance or evasion may be analyzed by reference to the loss of tax effectiveness, defined simply as the algebraically difference between the nominal revenue (T_n) and actual collections (T_e) (Mathews,1985) :-

$$\begin{aligned} T_n - T_e &= t_n(Y_n - D_n) - t_e(Y_e - D_e) \\ &= t_n(Y_n - Y_e) + t_n(D_e - D_n) + (t_n - t_e)(Y_e - D_e) \ldots\ldots\ldots\ldots(2) \end{aligned}$$

The three terms on the right-hand side of equation (2) represent tax avoidance or evasion resulting respectively from non-disclosure or underestimate of the gross revenue base, overstatement of deductions, and tax rate manipulations. Non-disclosure or underestimates of the gross revenue base usually involve tax evasion.

By, contrast, overstatement of deductions usually involves avoidance rather than evasion (Mathews,1985).

It is not possible in practice to measure the difference between D_n and D_e with any confidence. The concept of D_n in itself is difficult to define, since the government is unable to be precise about what its intentions are and what the revenue cost of its concenssions is expected to be. This is because the most costly deductions in terms of tax avoidance and revenue losses are usually open-ended, so that the government cannot know to what extent taxpayers are likely to adjust their behavior to take advantage of them (Mathews, 1985).

2.1.2 The Determinants of Tax Levels

Following Tanzi (1989) some of the factors that determine taxation levels in developing countries are discussed below. These are discussed under the headings of statistical determinants, institutional or social determinants, and tax policy determinants (Tanzi, 1989).

Statistical determinants

Many of the quantitatively oriented studies on level of taxation have regressed the ratio of tax to GDP(T/GDP) against any combination of the following factors: (1) level of per capita income, often taken as a proxy for the level of economic development, (2) degree of urbanization, (3) literacy rate, (4) degree of monetization of the economy, (5) ratio of exports and imports to GDP (the so-called openness factor),(6) share of mining or agriculture in GDP, and (7) size of the country. As Musgrave (1969) and others have argued, these factors plays an important role in determining the tax bases or the "tax handles" that can be used by government to raise the desired level of revenue (Musgrave ,1969).

Institutional or Social Determinants

Much of the literature that has not concentrated on purely statistical relationship has called attention to more qualitative factors, such as (1) quality of the tax administration, (2) resources that the country allocates to this function,(3) honesty of tax-payers,(4) degree of corruption among tax collectors, which in turn may be influenced by the level of their wages, (5) size of the penalties for non-compliance by taxpayers and for corruption by tax administrators,(6) income distribution of the country,(7) importance of the subsistence sector and the parallel economy,(8) attitude of the citizens toward the government, which may be influenced by the quality of public services and the efficiency with which tax revenues are spent, and (9) form of government. Many of these factors are difficult to quantify but are perceived to be important in determining whether a country ends up with a high or low tax level. The extent to which taxes are evaded, or a large parallel economy develops, depends to a considerable extent on some of these factors (Tanzi, 1989).

Tax Policy Determinants

Important policy determinants include (1) use of particular tax sources (for example, whether a country does or does not use a value-added tax, (see Nellor, 1987), (2) number of taxes in the country's tax system, (3) level of tax rates, and (4) use of tax incentives and tax expenditures in general.

The determinants mentioned above may help explain the long run or potential levels of taxation. However, they have not been able to explain more than a small fraction of the variation of tax levels in empirical cross-section studies (Tanzi, 1989). Furthermore, several countries have experienced wide fluctuations in tax levels in relative short periods of time. These fluctuations could not be attributed entirely to changes in these determinants; one must look, rather, at macroeconomic policies[2]

2.1.3 Tax structure and stages of development

A common feature of the tax structures in most developing countries is that they are complex (difficult to administer and comply with), inelastic (nonresponsive to growth and discretionary policy measures), inefficient (raise little revenue but introduce serious economic distortions), and unfair (tax administration and enforcement are selective and skewed in favor of those with resources to defeat the system)(Dlamini, 1995). Goode (1984), using works of Hinrchs and other authors argues that:

> Countries tend to move in the course of development from an early period in the ratio of direct to indirect tax revenue is high through stages in which direct taxation becomes more important and finally to a stage in which direct taxes are again dominant (Goode, 1984: 89).

The relationship between tax structures and development can be briefly summarized as follows (Goode, 1984:89): -

(i) At an early stage of development, traditional societies derive revenue mainly from non-tax sources and from traditional direct taxes in the form of taxes on land, livestock, agriculture, water rights and poll taxes.

(ii) During transition to modernity, these sources diminish in importance compared with indirect taxes,such as customs duties,excise duties and export duties.

[2] The macroeconomic policies discussion is beyond the scope of this paper and is not deal with.

There is a heavy reliance on taxes on international trade ,which undermines long-term international competitiveness.

The importance of internal indirect taxes increases as well, as development progresses, which become feasible as magnetization and domestic production increases. At this stage, direct taxes could be stepped up, but their yield is less significant compared with the yield of foreign trade taxes and domestic consumption taxes.

(iii) At advanced stages of development the importance of foreign trade taxes diminishes whilst that of direct taxes grow.

Indeed, Cnossen (1977) stresses the advantages of excise taxation in developing countries for compliance reasons:

> In implementing the law, sales and income taxes basically rely on the voluntary filing of self-assessed returns by taxpayers. For these taxes to be effective, moreover, taxpayers must be willing and able to maintain proper accounts...Excise and custom duties, on the other hand do not need taxpayer co-operation for assessment, and there are almost no collection problems...Where a majority of the population is illiterate the excise method of assessment is better understood and therefore probably regarded as fairer...the tradition of voluntary compliance that is a basic ingredient for the successful application income and sales taxes that does not exist (Cnossen,1977:119).

When Tanzi (1987) compared developing countries as a whole with selected industrial countries, the importance of administrative constraints in determining the tax structure was demonstrated. Foreign trade taxes are most important source of revenue in low-income developing countries and remain important for middle – and upper income developing countries. In contrast, such taxes are scarcely used for revenue purpose in the major industrial countries. Revenue from taxes on general consumption, such as the VAT, amounted in 1984 to 9 percent of GDP in France, 5.6 percent in the United Kingdom, and 6.3 percent in the Federal Republic of Germany, compared with an average of 1.6 percent in developing countries. For the same year, personal income tax amounted to over 10 percent of GDP in the United States, the United Kingdom and Germany- compared with 1.9 percent of GDP in the average developing countries. In accordance with the tax handle theory, then, the effective tax structure of developing countries (as opposed to the legislative tax system) is characterized by reliance on a half dozen narrow tax bases, reflecting administrative convenience (Mansfield).

There is a wide view that countries at the highest stages of development have greater latitude to adapt their tax systems to their political preferences. Whilst those in early stages are more constrained by their administrative in capabilities and the size of alternative tax bases. The structural move, therefore, can be staged as a move from taxation on agriculture to foreign trade, to consumption and to individual and business incomes (Goode,1984)

It is also argued that tax structures are shaped by economic factors, which account for the size of different tax bases, and by political and social factors which influence opinions on tax equity. Countries at advanced stages of development are said to have far more scope for exercising choice, in the design of their tax systems, than those at early stages of development (Dlamini, 1995).

Given the above theoretical background a classification of Namibia's economic level can be attempted and noting the heavy reliance on Southern Africa Customs

Union (SACU) receipts followed by trade taxes such the diamond export duty, Namibia can reasonably be categorized as being at its middle stage of development ,that is stage (ii), and also the yield of domestic consumption taxes is more significant than that of direct taxes in the case of Namibia. This compares well with other LDCs, at the same stage of development, which also rely on indirect taxes. It should be borne in mind that Namibia couldn't increase direct tax rates, particularly above those of South Africa, given the high level of integration in the region and the competition for foreign direct investment.

2.1.4 A Critical view of Tax Structure in Developing Countries

The prototypical tax structure of developing countries can be criticized on stabilization, efficiency, and equity grounds.

For stabilization, a tax system should comprise one or at most several predominant taxes with a rate schedule that can be adjusted quickly and with a high degree of certainty to alter the purchasing power available to the private sector. These predominant taxes can then be used to increase or cut back private spending to achieve stabilization goals related to growth, prices, or the balance of payments. Because the tax systems of developing countries are cluttered and tax bases are narrow, adjustment of revenue for stabilization purposes must come about by piecemeal measures- in general by raising of rates on indirect taxes such as import surcharges, excises, or sales tax because these taxes are considered to increase revenue with greater certainty and speed. From a dynamic point of view, the continued reliance on these tax bases for revenue needs tends to be self-defeating: high rates on the narrow bases further distort the allocation of resources and lead to evasion or to consumer resistance. In sum, the lack of a predominant, broadly based tax and the clutter of rates and exemptions on existing taxes make it difficult to use the tax system for stabilization purposes (Mansfield,1972).

For efficiency, a good tax system is considered to be one that leads to the least amount of distortion of relative prices, both in the prices facing the consumer and in those facing the producer. Although only a lumpsum poll tax would satisfy the criterion of noninterference in all relative prices, broadly based income or sales taxes with one or few rates are considered desirable in that they lead to less distortion in consumer and producer precisian developing countries many different import and excise tax rates on narrow bases are combined with a variety of exemptions to produce almost random effects on consumer choice and producer incentives (Mansfield,1972).

The heavy reliance on foreign trade taxes can be singled out as the most undesirable aspect of tax systems in developing countries from the point of view of both stabilization and resource allocation (Greenaway ,1981). From the standpoint of stabilization, foreign trade taxes tend to tie government revenue to unpredictable fluctuations of export commodity prices, and hence, aggravate fiscal stabilization problems. From the standpoint of resource allocation (efficiency), trade taxes have no place in a "first-best" tax structure. The discriminatory nature of trade taxes ensures that their use imposes both a production distortion cost and a consumption distortion cost (Greenway,1981).

Equity goals are also heavily comprised by the tax structure of developing countries. To an outsider this tax structure may appear to be highly progressive because the rate structure of the personal income tax is often highly progressive. On closer examination, however, the vertical equity of the system is compromised by the fact that the personal income tax collects a relatively small share of total revenue and applies mainly to wage earners, whose incomes may be lower than those of the self-employed. Taxes on consumption also violate horizontal equity because of their uneven and almost random application.

In view of the above criticisms, the tax administrator is left with a dilemma, he/she should strive to balance immediate revenue objectives with the need to support changes designed to produced a "better" tax structure in terms of the efficiency, equity, and stabilization goals as mentioned above. These latter efforts would seek to reduce dependence on convenient tax handles and to tackle the more and difficult problem of implementing more broadly based income and consumption taxes (Mansfield,1972).

2.1.5 Deficit Financing

As mentioned earlier most LDCs face the big challenge of increasing government expenditure, which leads to unsustainable budget deficits, which need to be, financed. The literature on the financing of fiscal deficits is limited. Economic writing has concentrated on the consequences rather than the sources of deficit financing (Tanzi,1989) .This study shall elaborate on the sources of deficit of financing, where it will distinquish domestic from foreign sources. The fiscal deficit can be financed in a variety of ways, some more orthodox than others.

Domestic financing

Domestic financing can come in various forms. A basic distinction that can be made is between borrowing from the non- bank public and borrowing from the banking system.

Borrowing from the public: Free sales of bonds. If the government choses to finance its deficit in this way, it must make these bonds attractive enough to induce buyers to buy them. This requires that bond prices must come down (interest rates must go up) which, in turn, attracts foreign capital and leads to an appreciation of the exchange rate. In developing countries, and in some industrial countries as well, this option is very limited. One reason is the limitation of the size of the capital market that, by itself, sets a limit at a relatively small level to the size of the deficit that could be financed in this way regardless of the level of interest rates. Another is that many governments are reluctant to let real interest rates become positive and competitive. In reality one finds that in most developing countries this source of financing is small and often insignificant (Tanzi,1989).

Sale of bonds to captive markets: While the scope for financing a fiscal deficit through the voluntary placing of bonds in the market is limited, there is an alternative that is of great significance. This is the sale of bonds to captive buyers. In larger number of developing countries, many institutions and occasionally even some individuals, such as public sector employees, are required to invest in public bonds. Individuals may buy government bonds at a discount and use them to pay taxes at a later time. In other cases, the government payments say for tax refunds or for the purchase of property, are made in bonds. As these bonds often pay low interest rates, there is an element of taxation in this transaction. This captive market for government bonds accounts for much of the non-banking domestic source of financing (Tanzi,1989).

Building up of domestic arrears: Borrowing from the public is not limited to the sale of bonds. Another important source is the building up of arrears vis-a-vis domestic suppliers of goods and services. Theoretically, arrears are equivalent to interest- free loans. They can be accumulated vis-a-vis domestic suppliers of goods and services, those who carry out capital projects, public employees in the form of delayed payment of wages, tax-payers in the form of delays in the payment of tax rebates or refunds and in other ways. All of these sources have clear, if not inflexible, limits. Higher expected inflation is likely to reduce the willingness of individuals to buy bonds or to allow the building up of arrears (Tanzi,1989).

Borrowing from the banking system: All the sources of financing discussed so far have clear, if not inflexible, limits in real terms. If they were the only ones available, one could make an easy case that the fiscal deficit of a country could not exceed some proportion of national income over the fiscal year. Although borrowing from the banking system may not necessarily mean borrowing from the central bank (as the government can borrow from domestic commercial banks), in practice this distinction is not important if, as often happens, the monetary authorities accommodate that borrowing by increasing the reserves of the commercial banks. Thus, whether the government borrows directly from the central bank or (perhaps because of legal constraints) indirectly by going to the commercial banks, in both cases, there is an increase in money supply. Monetary expansion increases the general price level and thus reduces the real value of the monetary unit. As Friedman (1942) and Bailey (1956) showed many years ago, this reduction in real value can be considered a tax on those who hold money. Given the real cash balances, the money creation to finance a fiscal deficit will generate higher revenue referred to as seigniorage. If the rate at which the money is created is greater than the demand for it, the current price level creates excess case holdings, which will drive up the overall price level until equilibrium is restored. In the extreme case, reliance on seigniorage revenue leads to hyperinflation (Laffer curve effect)(Tanzi,1989).

Foreign Financing

Foreign financing of the fiscal deficit can come in at least four categories, namely, grants, concessionary loans, commercial borrowing, and building up of arrears.

Grants: Grants can be of at least three types. First, they can come in the form of cash. A donor country may make available a certain amount of foreign currency to the deficit country to finance the deficit. Clearly, the domestic currency counterpart of grant depends on the exchange rate. If the government has expenditures abroad (on imports by the public sector or for servicing external debt obligations), the grant can be utilized directly to meet these needs. Second, grants come in the form of commodity aid. This commodity may be sold domestically and the funds thus raised may be used to finance the deficit. Or, it may be used directly by making 'payments' in kind. A third form of grant is project aid: a donor country agrees to cover all the costs associated with the construction of a given project (for example, building, road). In this case, the additional spending and at least part of needed financing increase *pari passu* (Tanzi,1989).

Concessionary loans: These are loans that come with a lower-than- market rate of interest, have a substantial grace period, and have a long maturity. They may be given by governments or by international institutions (such as the International Bank for Reconstruction and Development (IBRD), the International Development Bank

(IDB) and the Regional Development Bank (RDB)). Often, they are tied to projects and thus require domestic counterpart expenditure. They all contain a grant element in the sense that the present value of the (discounted) servicing cost is less than the loan (Tanzi, 1989).

Commercial loans: These can come from foreign commercial banks or from foreign suppliers. Those coming from commercial banks may have maturities ranging from a few months to over a decade. If commercial banks are highly liquid, if they assess optimistically the future economic prospects of the borrowing country, and if the country is willing to pay a premium for getting these loans, this source of financing can become very large in the short run. But, as the painful experience of recent years indicates, there may come a time when a country finds itself cut out from this source and this is likely to occur when its need for these loans is greatest (Tanzi, 1989).

External arrears: When interest payments to foreign lenders are due and are not made on time, the accrued interest swells the deficit, but this is part of the deficit automatically financed by the non-payment of interest. Or, if the payment to foreign suppliers of goods and services is due and that payment is not made, part of the fiscal deficit is again automatically financed by the non-payment. These forms of financing represent lending which often is not voluntary. These arrears toward foreign lenders can become large and can play a significant role in explaining how a country can finance such a large deficit in a given year (Tanzi,1989).

2.2 Empirical literature review

On the empirical front, most researches have tried to link the tax-reform measures to revenue performance of the tax system. Tax-reform is a change in the *status quo*. Faced with a mounting budget deficits and having to cut expenditures as far as is prudently possible, particularly on public investment and social spending, a number of developing countries have undertaken to restructure their system of taxation to seek higher revenue elasticity and buoyancy of the tax system (Khalizaden-Shirazi and Shah, 1995).

Quite a considerable amount of tax performance studies comparative as well as country studies have been made through the analysis of revenue productivity of tax system (the tax-revenue-income methodology). Sahota (1961) in his study of the tax performance in India, for the period 1948-1958 found that the tax system was inelastic.

According to Mansfield (1972), using this method to Paraguay data from 1962-70, (a period of conscious tax-reform) found that in that period, Paraguay's tax ratio rose significantly. Similarly Chouwdhury (1975), using the data from West Malaysia, evaluating individual (component, namely income taxes) taxes for the period 1961-70 indicated that estimated buoyancies of total income tax collections and of personal and company tax collections were higher than the corresponding built-in elasticies estimates.

Wegne (1983), as a part of his study of analyzing the financial revenue structure in post-revolution Ethiopia, attempted to examine the contribution of taxation towards establishing the material basis of socialism. He estimated the buoyancy and built-in elasticity of the total tax revenue for the period of 1975-81, and the conclusion was that the reforms have significantly increased the tax revenue in the country as reflected in the buoyancy coefficient of 1.89 for the period under study. Teshome (1979) made a commendable work in this regard. He used a variant of the built-in-elasticity method in examining the revenue effectiveness of the coffee export taxes. He did this by relating the tax revenue to value and volume of coffee export taxes. The findings of this study were that tax revenue was volume and price inelastic. The writer thus suggested that "the present coffee tax formula requires constant revisions of tax laws whenever significant changes in price and or volume of coffee export occur."

Dlamini (1995) estimated a buoyancy and built-in elasticity of the tax system in Swaziland, and found that it was 1.03 and 1.25, respectively. It shows that the discretionary changes were less effective than the automatic changes.

According to Kusi (1998), the tax-reform process in Ghana contributed greatly to the growth of revenue productivity from 1983-1993. This was evident in elasticities of more than unity for the major taxes and of the total tax system.

It is pertinent to point out that even if the reform is compatible with the macroeconomic objectives of the government, there is little chance of success if it is either cannot be administered, or administrative reforms cannot be undertaken. Many tax-reforms carried out in developing countries have been on tax structure rather than on tax administration (Osoro, 1993).

Osoro (1993)noted that tax-reform has, nevertheless failed to raise the revenue-productivity. This was reflected in elasticities less than unity for the major taxes and total tax system in Tanzania. The failure of the tax system seems to have been caused by granting generous exemptions and poor tax administration.

The conventional wisdom of tax ratio and tax effort analysis holds that the tax revenue share of GNP in developing countries is a function of the stage of development and the openness of the economy (Bahl, 1971).

Chelliah (1971), carried out a study that was based on a comparison of data for 1953-55 with those for 1966-68 for a sample of 30 developing countries, and a cross-section analysis, based on averages for 1966-68, covering 50 countries. The 1971 study noted that tax ratios for developing countries had increased during the period 1953-55 to 1966-68. This trend has continued even after 1968. The average tax ratio (excluding social security contribution) for 1969-71 was 15.1 percent, compared with 13.6 percent for 1966-68. The tax ratio increased in almost 80 percent of the countries that were covered in both periods. In spite of the general increase in tax ratios in developing countries, however, the average level of taxation in these countries is still considerably less than that in developed countries. The average tax ratio in 16 of the developed countries in Europe and North America amounted to 26.2 percent in 1969-71.[3]

[3] See Organization for Economic Co-operation and Development, revenue statistics of OECD member countries,1965-1971 (Paris , 19730)

CHAPTER THREE

3.0 Namibia: The macroeconomic frame work

Since the late eighties, a gap has persisted between government expenditures and revenues. A fiscal deficit emerged and worsened primarily because of stagnating government revenues, and because expenditures rose from an already high level. The government increased reliance on domestic borrowing to finance the deficit – an action that is not sustainable in view of the need to keep inflation low and to stimulate private investment. Starting in fiscal year 1993/94, this trend of larger deficits was reversed. The fundamental soundness of Namibia's macroeconomic foundation suggests that if resource mobilization can be enhanced, drastic expenditure cuts will not be required. However, the uncertainty associated with future revenues and the scope for increasing them substantially, as well as the urgent need to redress the inequities of apartheid, makes it critical that the government allocates existing expenditures more efficiently. The more prudent fiscal stance that will result and the ensuing macroeconomic stability will help spur private investment and GDP growth.

3.1 Trends and Issues

3.1.1 Magnitude of the Fiscal Imbalance

A striking characteristic of the imbalance between revenue and expenditure in Namibia is that it is not a consequence of rapidly increasing expenditures. Slower growth in revenues caused by sluggish economy and unfavorable terms of trade, and failure to adjust expenditures to the smaller resource envelope precipitated the balance. There is a growing mismatch between revenues and expenditures between fiscal year 1989/90 and fiscal year 1992/1993 (which was exacerbated by a fall in grants), and a resulting deterioration in budgetary position. During the eighties, revenue were buoyant, growing by 7.5 percent annually between fiscal year 1981/82-89/90.This performance was driven by huge increases in revenue from direct taxes. This excellent revenue performance in conjunction with minimal expenditure change (decrease of 0.5 percent), resulted in a small budget deficit after grants of 1.7 percent[4].

By contrast, between fiscal year 1990/1991 and fiscal year 1993/1994,government revenues grew much more slowly than expenditures. While expenditures grew by 4.2 percent annually from their already high level, revenues grew only modestly at 1.3 percent, partly as a result of lower rates. The net effect was an emerging budget deficit, which grew larger over most of the period.

3.1.2 Trends in Revenue

The rapid increase in revenues collected by the government in the eighties was due to changes in tax law and to the performance of the mining sector. Direct taxes grew by 18.5 percent in the eighties, buoyant by an increase in the individual income tax rate and in the general sales tax (GST). In the nineties this growth rate fell precipitously to -2.7 percent. Revenue from most tax categories fell as the mining sector and the economy in general slowed down, and recorded grants dwindled. Increase in non-tax revenue from SACU transfers was insufficient to offset the decline. Namibia's revenue to GDP ratio is high relative to other low -and lower-middle income countries. It averaged 39.4 percent between 1990 and 1994 of which the bulk was tax revenue. Given the already high tax burden and Namibia's unequal income distribution, the scope for increasing revenue through additional taxes would appear limited.

[4] Defined as overall deficit including grants

3.1.3 Structure and Pattern of Expenditure

Government expenditures have historically been high as a share of GDP and have grown in real terms since 1990.The expenditure to GDP ratio of 34.8 percent in 1993 is high relative to low - and middle - income countries. Changes in both the functional and economic composition of public expenditures hint at why it has been difficult to adjust them downward. On the functional side, expenditures on social services have increased at the expense of expenditure on economic services; on the economic side, the main change was pressure on wages (and to lesser extent on goods and services). Expenditures in both of these areas are difficult to reduce for social and political reasons.

Government capital expenditure has steadily declined as a share of total expenditure. Gross public investment has averaged 5.9 percent of GDP since 1990. The level of development expenditure has not contributed to the increasing imbalance between revenues, and expenditures. However, the low level is possibly symptomatic of another problem: lack of consensus within Namibia on what appropriate level of public investment is, and difficulties in some line ministries in identifying economically or socially viable projects. While the current level of public investment appears low, it should be noted that Namibia has solid economic infrastructure and is likely, than other low - and middle - income countries, to need new massive investments.

3.1.4 Financing the Deficit

The first few deficits after Independence were financed through a combination of borrowing from South Africa and drawing down on cash reserves (amortization fund). The fund was exhausted in 1990 and since then the government has relied on borrowing domestically (through the issuance of government stock and bills) and externally. Two issues emerge: first, the share of the deficit financed through external borrowing rose from zero in 1991/92 to 8.7 percent the following year. Preliminary budget estimates show a continuation of this trend with almost a doubling to 15.6 percent. Since Namibia is blessed with a low level of external indebtedness, this trend has not yet adversely affected the country continues to run large deficits. Second, given that the overall deficit has increased, the amount financed through domestic borrowing has increased significantly.

In addition to borrowing, the government has responded to the rising deficits by attempting to expand revenues collected through, for example, the introduction of an additional sales duty (ASD), though this has been offset to some extent by concurrent decreases in the GST and corporate tax rates. However, expenditures were not initially reduced in response to the rising deficit. As discussed earlier, this trend appeared to have been reversed in fiscal year 1993.The size of the deficit is not sustainable over time. Firstly, the method of financing - reliance on domestic capital markets- could if relied on excessively, send the wrong signal to the private sector. Secondly, deficits of this magnitude can cause macroeconomics instability through rising public indebtedness and the inflationary impact.

The public debt to GDP ratio has increases rapidly; fortunately this started from a low level and so is still manageable. Recognizing that both monetary and exchange rate policy are circumscribed due to common monetary area(CMA) membership and the maintenance of parity between the Namibia dollar and the rand, the implication of financing the deficit through this method are particularly serious. It is likely to result in inflation. If no savings (domestic or foreign) were available, the government would be forced to draw on foreign exchange reserves, a move, which would be detrimental to the currency.

3.2 Revenue mobilization issues

3.2.1 Sources of Government Revenue

Namibia appears to posses diversified and balanced sources of revenue when one looks at the traditional classification into direct commodity and trade taxes. If all revenue from the Southern Africa Customs Union (SACU) is viewed as one source, however, and if one takes the uncertainty over the future of SACU into consideration, then the country is vulnerable to changes in the sources of revenue in the short-run. The historical pattern of funding for Central Government is presented in Table 3.1 to 2.3 for the years 1988/89 to 1993/94 along with the draft budget for 1994/95.Four features stand out:

- Tax revenue is the dominant provider of central government funding. It is projected to increase to 92 percent of the total revenue in 1994/95[5]
- Non- tax revenue accounts for around 10 percent of the total on average, and is projected to decline to under 7 percent in 1994/95. It is, however, stated that government policy to increase non- tax revenue as a share of total revenue by introducing a number of more realistic fees and charges and historically non-tax revenues have been underestimated[6].
- Grants have ceased to be important, declining to less than 2 percent of revenues from a peak of 17.7 percent in fiscal year 1988/89.

[5] SACU Receipts are treated as taxes.

[6] The inclusion of fees and charges as a part of the revenue to finance public expenditures is not strictly correct in public finance terms. Instead, public expenditures should be net of these fees and charges. Expenditures paid for by fees and charges are correctly regarded as private purchases from the public sector

- The single most important source of revenue is the amount transferred through the Southern Africa Customs Union (SACU) which averaged 26.1 percent between 1990 and 1994.

Table 3.1:Namibia: Central Government Revenue and Grants

	1988/89	1989/90	1990/91	1991/92	1992/93	1993/94	1994/95
Tax revenue N$ Million at current price	1236.5	1772.1	1661.0	2195.7	2433.9	2774.4	2973.3
As percentage of Total	69.1	76.6	82.8	84.4	83.7	88.0	92.0
As percentage of GDP	26.5	33.4	29.2	33.7	32.5	33.0	32.0
Taxes on Income and profits N$ Million at current price	451.7	799.6	655.2	597.8	804.7	930.4	899.8
As percentage of Total	25.3	34.6	32.6	23.0	27.7	29.5	27.8
As percentage of GDP	9.7	15.1	11.5	9.2	10.7	11.1	9.2
Taxes on property NS Million at current price	8.8	14.4	12.3	12.4	14.3	27.8	21.0
As percentage of Total	0.5	0.6	0.6	0.5	0.5	0.9	0.6
As percentage of GDP	0.2	0.3	0.2	0.2	0.2	0.3	0.2
Domestic taxes on goods and services N$ Million at current price	333.6	454.9	479.5	576.0	800.5	904.9	1039.3
As percentage of Total	18.7	19.7	23.9	22.1	27.5	28.7	32.2
As percentage of GDP	7.1	8.6	8.4	8.9	10.7	10.7	11.2
Taxes on international trade and transaction N$ Million at current price	458.4	521.7	507.5	1036.6	829.1	896.1	1022.3
As percentage of Total	25.6	22.6	25.3	39.8	28.5	28.4	31.6
As percentage of GDP	9.8	9.8	8.9	15.9	11.1	10.6	11.0

Other taxes N$ Million at current price	4.9	5.0	6.5	8.0	5.2	10.0	
As percentage of Total	0.3	0.2	0.3	0.3	0.2	0.5	0.6
Non-tax revenue N$ Million at current price	232.1	229.7	241.2	334.5	398.6	325.5	211.6
As percentage of Total	13.0	9.9	12.0	12.9	13.7	10.3	6.5
As percentage of GDP	5.0	4.3	4.2	5.1	5.3	3.9	2.3
Capital revenue N$ Million at current price	2.8	2.9	3.8	4.5	1.2	2.5	2.5
As percentage of Total	0.2	0.1	0.2	0.2	0.0	0.0	0.1
As percentage of GDP	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Grants N$ Million at current price	317.2	308.3	101.1	67.8	73.5	53.6	44.4
As percentage of Total	17.7	13.3	5.0	2.6	2.5	1.7	1.4
As percentage of GDP	6.8	5.8	1.8	1.0	1.0	0.6	0.5
Total N$ Million at current price	1788.6	2316.0	2007.1	2606.5	2908.6	3060.0	3231.3
As percentage of Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total Revenue and Grants As % of GDP	38.3	43.6	35.2	40	38.8	37.5	34.8

Source: Ministry of Finance

Namibia has a balanced tax system, which is not dependent on any one grouping for the bulk of its revenues (Table 3.1); so it can be sheltered from the effect of a downturn in the tax base of one sector to some extent. The split between the three main tax groupings (taxes on income and profits, domestic taxes on goods and services, and taxes on international trade and transactions) has been relatively equal since 1992/93 once the SACU receipts stabilized (after the arrears from previous years had been paid).

This pattern of balanced sources of revenue can be compared to figures on countries aggregated by income groups and Sub-Saharan Africa which typically show a higher dependence on one group of taxes than Namibia (Table 3.2). For example, middle-income and industrial countries typically rely most heavily on direct taxes, and least on trade taxes while the reverse is true for low-income countries: they tend to depend more heavily on trade taxes and commodity taxes in that order.

Table 3.2:Percentage Share of Total Revenue by Various Country Income Grouping

	Low income	Middle income	Industrial Countries	Sub-Saharan Africa	**Namibia**
Personal tax	9	10	27	12	16
Company	15	17	7	20	12
Social Security	1	11	31	2	0
Property	1	2	2	1	1
Other	3	9	2	4	1
Direct Taxes	29	49	69	39	30
Sales, VAT, Turnover	17	31	17	15	18
Excise	13	12	10	9	*
Other	2	5	2	2	1
DomesticCommodityTaxes	32	30	29	26	29
Import	29	17	2	26	25
Export	8	1	0	8	4
Other	1	1	0	1	0
Trade Taxes	38	19	2	35	29

Source: Ministry of Finance, World Bank Development Report 1988.

* = Included in import taxes

Namibia's tax revenue ratio of about 33 percent is striking high compared to other countries, regardless of their income. This is partly due to the dominance of the mining sector in Namibia which is taxed proportionally more heavily.

Table 3.3 below shows government tax revenues as a share of GDP in Namibia and other country groupings. Of the 132 countries listed in the World Development Report, only 13 have a higher total central government current tax to GDP ratio than Namibia: 3 are adjusting ex-socialist countries and 4 are Scandinavian countries. Despite this high tax ratio, comparisons with other countries show Namibia's individual tax-to GDP ratio is relatively low. At their peak, taxes on individuals were recorded at 6.8 percent of GDP which, by comparison were 10 percent in low-income countries, and 12 percent for Sub-Saharan Africa in 1985.

Table 3.3: Tax Revenue to GDP Ratios

(Percent)

Namibia	33.0
Low-Income	23.3
Middle-Income	20.0
Industrial	21.0

3.2.2 The Tax System

In this section we describe and assess Namibia's main taxes drawing on the extensive work carried out by the Fiscal Affairs Department of the IMF. The main conclusion is that the current system could be significantly more efficient. In terms of indirect taxes, both the General Sales Tax (GST) and Additional Sales Duty (ASD) have problems and great deal of uncertainty surrounds one of the major sources of revenue-revenues received from SACU. In terms of direct taxes, there appears to be scope for simplification.

3.2.2.1 Indirect Taxes

A. General Sales Tax and Additional Sales Duty

The General Sales Tax (GST) is levied at two rates: 8 percent on manufactured goods and imports, and 11percent on services. The ASD was introduced in the 1993/94 budget, motivated in part by Namibia's loss of fiscal freedom to use excise taxes for distributional and revenue purpose due to their inclusion in the SACU revenue pool. However, the introduction of the Additional Sales Duty has complicated an already elaborate system. The ASD has four different rates (0, 5, 10 and 15 percent) applied to luxury goods, whether produced domestically or imported. The GST and ASD are directed at the final consumer and a "ring system" is administered by which registered businesses do not pay sales tax on inputs for business use. In 1995 IMF Fiscal Affairs Department mission examined the GST and ASD. It concluded that the sales tax creates substantial problems because the tax bears heavily on inputs.

The mission noted that the Sales Tax Act of 1992 allows exemptions for business inputs into specific sectors, but that the exemptions do not extend to all inputs or all sectors. The mission found a long list of non-qualifying inputs for manufacturing businesses and that the exemptions do not apply to the construction sector, for example. Plant and machinery are generally taxable, although the Act provides for discretionary exemptions in the case of manufacturing enterprises. The number of businesses actually receiving exemptions is not large however. The net result is that effective taxation on final consumption is higher than would appear, and moreover the effective tax rate varies across goods and services. Another problem is that when the GST and the ASD are combined, too many rates result. Finally, the tax treatment of imports generates problems related to protection because fob is the base than c.i.f.

B. Southern Africa Customs Union (SACU).

SACU is a customs union between South Africa and the BLNS countries (Botswana, Lesotho, Namibia and Swaziland). All customs duties and excise taxes collected by the members go into a common revenue pool and are redistributed according to a formula on a two-year lagged basis with adjustment in years t-3 and t-4 to reflect differences between actual numbers and original estimates. The formula is as follows;

$$S_I(t) = A+B+C/\ D+E+F+G \times H(t) \times 1.42$$

Where; I = denotes each of the BLNS countries

Si = share of each BLNS

A = c.i.f. value of goods imported from all sources including Duties paid or payable thereon

B = value of excisable and sales duty goods produced and Consumed in country i.

C = excise and sales duties paid on B

D = c.i.f. value of imports into common customs area.

E = Customs and sales duties paid on D

F = value of excisable and sales duty goods produced and

Consumed in the common customs area.

G = Excise and sales duties paid on F.

1.42 = compensation factor

H(t) = value of the common revenue pool

The main features of the formula are that (a) permits the BLNS countries to include intra-union imports in their calculations of respective country imports, and (b) generates the portion due to South Africa on a residual.

However, a stabilization factor relates the revenue received to the tax base for each country and ensures that the amount is between 17 percent and 23 percent of Namibia's tax base. This effectively removes the common revenue pool from the formula .The main element of SACU is imports and the duties collected. For South Africa, the protection of domestic industry has been the dominant aspect of policy, although revenue considerations are not unimportant. South Africa has controlled the setting of the common external tariff and has broken virtually all the commanders of "good" tax by the complexity, range and size of rates and the distortionary effect on incentives, which this implies. Non-tariff taxes on imports and domestic production have often differed. For the BLNS countries, SACU has been about revenue rather than about trade policy. The revenue compensation factor is designed to offset the distortionary aspects of the common external tariff which has had limited benefits in terms of the development of industry. Thus, another commandment relating to tariffs has been broken: that tariffs should not be a dominant revenue generator.

South Africa's current metamorphosis may well change the whole basis for SACU. However, the more liberalizing trade becomes in South Africa, the greater will be the reduction in the SACU common pool, and the more important the stabilization agreement will be for the revenues received by the BLNS countries. This will only be tolerated by South Africa while the pay-out of the common pool does not exceed the total, or more realistically, when South Africa is not benefiting from the revenues which include its own excise taxes. It is not possible to indicate when this may become a problem for Namibia since the trade reforms will be introduced over a period of years. Nor is it possible to estimate the extent of revenue reduction with any degree of certainty.

It is possible that SACU will have to be renegotiated. SACU may become a common market with a common external tariff and no intra-SACU tariffs, and with each country responsible for excise tax collection. There will have to be some agreement on compensation for the tariff component of re-exports from South Africa to Namibia(where South Africa has received revenues as the first point of entry),and for the price-raising effect arising from the protection of goods produced in South Africa. SACU as a common market will be to the benefit of Namibia as a trade policy option.

3.2.2.2 Direct Taxes

A. Personal Income Taxes

The current personal income tax has a standard allowance of N$10,000, and 10 marginal rate bands rising sharply initially from 14 percent to 20 percent, and then steadily to a top rate of 38 percent at N$ 120,000.The personal income tax is progressive. The government intends to reduce the number of bands further. Taxable income includes fringe benefits, (which has a positive effect on the tax base). However, a possible loophole in the system allows losses for tax purposes generated in one activity to be deducted from other incomes. This appears to be prevalent in “week-end” or hobby farming where farming losses can be deducted from other incomes, particularly wages and salaries in week jobs. The introduction of a ring-fencing rule to prevent such loss carryovers would be warranted.

B. Company Tax

The current rate of company tax is 38 percent - the same as the top marginal personal tax rate. Very few companies, particularly those in manufacturing and in exporting sectors, actually pay this rate of tax in any one-year. The reason for this is clear: a complex set of tax incentives reduces the effective tax rate on companies. These fiscal incentives come in a variety of forms; they include: access to import duty-free materials and capital inputs used in manufacturing; various corporate tax incentives such as investment allowances; export market development incentives; incentives which relate to access to capital and lending terms; and training incentives.

CHAPTER FOUR

4.0 Empirical Model and Methods

4.1. Measurement of revenue productivity[7]

The relative composition of tax revenue has implications for revenue growth and stability when it is considered that taxes may be primarily mobilized to finance government expenditures, both recurrent and capital. In considering criteria for a tax system in a developing country the response of tax revenue to changes in income has often been singled out as a vital ingredient[8] (Mansfield, 1972). A high revenue productivity is usually considered as one of the criteria of a good tax system in developing countries. This productivity is traditionally measured by the concepts of tax buoyancy and tax elasticity.

Conventionally, the elasticity of total tax revenue in relation to income has been presented in aggregate models as a single number. However, it is more realistic to visualize the overall tax elasticity as a weighted average of the sum of the elasticity's of individual taxes that respond in diverse ways to changes in income.

This implies that an evaluation of the overall tax elasticity must commence with an examination of the individual tax elasticity's. Symbolically, Mansfield (1972) has defined this elasticity's as follows:

[7] Most of this section is drawn from Kusi(1998) and Mansfield (1972).

[8] This element has been treated in a number of studies, including Chelliah,(1971), Berney,(1970) and ,Sahota, (1961)

Elasticity of total tax revenue to income:

$$E_{T_tY} = \frac{\Delta T_t}{\Delta Y} \cdot \frac{Y}{T_t}$$

Elasticity of k^{th} individual tax to income:

$$E_{T_kY} = \frac{\Delta T_k}{\Delta Y} \cdot \frac{Y}{T_k}$$

Elasticity of k^{th} individual tax to base:

$$E_{T_kB_k} = \frac{\Delta T_k}{\Delta B_k} \cdot \frac{B_k}{T_k}$$

Elasticity of k^{th} individual base to income:

$$E_{B_kY} = \frac{\Delta B_k}{\Delta Y} \cdot \frac{Y}{B_k}$$

Where

T_t = total tax revenue

T_k = revenue from k^{th} tax

Y = income (GDP)

B_k = base of k^{th} tax

Δ= the discrete change in the variable associated with it.

Given these definitions of elasticity, it follows that in a system of n taxes:

$$E_{T_tY} = \frac{T_1}{T_t}\left(\frac{T_1}{\Delta Y} \cdot \frac{Y}{T_1}\right) + \ldots + \frac{T_k}{T_t}\left(\frac{\Delta T_k}{\Delta Y} \cdot \frac{Y}{T_k}\right) + \ldots + \frac{T_n}{T_t}\left(\frac{\Delta T_n}{\Delta Y} \cdot \frac{Y}{T_n}\right) \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

According to Equation 1, the elasticity of total tax revenue to income is equal to the weighted sum of individual tax elasticity's (where the weights are the fractional distributions to total tax by each individual tax),(Kusi,1998)

The elasticity of any individual tax may also be decomposed into the product of elasticity of the tax to its base and the elasticity of the base to income.

$$E_{TY} = \left(\frac{\Delta T}{\Delta B_k} \cdot \frac{B_k}{T_k}\right)\left(\frac{\Delta B_k}{\Delta Y} \cdot \frac{Y}{B_k}\right) \text{.............................}(2)$$

combining equations 1 and 2 gives

$$E_{TtY} = \frac{T_1}{T_t}\left[\left(\frac{\Delta T_1}{\Delta B_1} \cdot \frac{B_1}{T_1}\right)\left(\frac{\Delta B_1}{\Delta Y} \cdot \frac{Y}{B_1}\right)\right] + \ldots + \frac{T_k}{T_t}\left[\left(\frac{\Delta T_k}{\Delta B_k} \cdot \frac{B_k}{T_t}\right)\left(\frac{\Delta B_k}{\Delta Y} \cdot \frac{Y}{B_k}\right)\right] + \ldots$$
$$+ \frac{T_n}{T_t}\left[\left(\frac{\Delta T_n}{\Delta B_n} \cdot \frac{B_n}{T_n}\right)\left(\frac{\Delta B_n}{\Delta Y} \cdot \frac{Y}{B_n}\right)\right] \text{...}(3)$$

which shows that the elasticity of total revenue to income in a system of n taxes depends on the product of the elasticity of tax to base and base to income for each individual tax, weighted by the importance of each tax in the overall tax system.

4.2 Estimation of tax elasticity and buoyancy

Two methods have traditionally been employed to estimate tax elasticity's. These are the historical time - series tax data (HTSTD) adjusted to discretionary tax measures (DTMs) and the unadjusted HTSTD with time trends or dummy variables as proxies for DTMs.

4.2.1 The HTSTD adjusted to DTMs approach

This approach attempts to eliminate discretionary tax changes (defined as the legal changes in the tax rates, tax bases, tax allowances and credits, and of tax administrative efficiency) from the HTSTD and then use the adjusted HTSTD to estimate tax elasticity by the following single-equation model:

$$\log (T_t^*) = \log_a + b_1 \log (B_1) + e_t \qquad (4)$$

where

T^* = adjusted HTSTD to discretionary tax changes

B = tax base (ro GDP in aggregate level)

e = disturbance term

b_1 = tax elasticity

the underlying functional relationship of Equation 4 is given as:

$$T_t^* = aB^{b1} \qquad (5)$$

In adjusting the HTSTD to discretionary effects, the usual practice has been to use either the proportional adjustment (PA) technique or the constant rate structure (CRS) technique.

The PA method was originally developed by Prest (1962) and has since been used by Mansfield (1972), Jeetun (1978), Sury (1985), Gillani (1986), Lambert and Suckling (1986), and Osoro (1993). In this method, a series of adjusted tax revenue is first obtained by subtracting from the actual tax revenue in each year the budget estimate of the revenue impact of discretionary changes in that year. The series is further adjusted by excluding the continuing impact of each discretionary change on future year's tax revenue as given in Equation 6.

$$T_{ij} = T_{j-1,j} \cdot \frac{T_{j-2,j-1}}{T_{j-1}} \cdots\cdots \frac{T_{2,3}}{T_3} \cdot \frac{T_{1,2}}{T_2} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(6)$$

where

T_j = the actual tax revenue in the *j* th year

T_{ij} = denotes the collection of the *j* th year adjusted to the tax structure of the *i* th year chosen as the reference or base year,and

T_{j-1j} = T_j-D_J (where D_J is the revenue effect - positive or negative - in the *T*h year of the discretionary tax changes in that year)

The CRS method, on the other hand, requires data on income bracket (or commodity) rates and sufficiently disaggregated information on the growth and distribution of the reported tax bases (see Bahl, 1972; Andersen, 1973; Chelliah and Sheetal, 1974; Choudhry, 1975). If such disaggregated information is available, then a constant rate base representing a hypothetical tax revenue under a system assumed to remain unchanged during the period under review can be constructed as follows:(Kusi,1998)

$$\left(T_t^*\right)=\sum_{i=0}^{n}\left(R_{io}\right)\left(B_{it}\right)\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(7)$$

where

T^* = adjusted HTSTD to discretionary changes

R_{io} = the base-year statutory tax rate on the ith income bracket (or commodity)

B_{it} = reported tax base in the ith income bracket (or commodity) in the t^{th} year

n = number of income brackets (or commodities)

A major problem with the PA and CRS techniques is that they are unable to completely adjust the HTSTD to discretionary changes. For its part, the PA method uses budget estimates of discretionary tax changes that are difficult to obtain in many developing countries. The CRS technique, on the other hand, requires information on the distribution of tax bases by rate categories, which are also not readily available. The result is that the effective tax rates of the broad income brackets (or commodity groups) that are empirically used assume a constant interclass (on intergrouping) distribution of the tax base throughout the period under review. Clearly, the validity of this assumption weakens as the number of the income classes or commodity groups reduces due to aggregation. Furthermore, Ehdaie (1990) has pointed out that both the PA and CRS techniques incorporate only the discretionary tax changes resulting from changes in statutory tax rates, thereby ignoring the own - and cross-DTMs indirect responses of tax revenues and the impact of changes in the degree of tax evasion, administrative efficiency, tax bases, and tax credits and allowances. However, the technique suggested by Ehdaie itself suffers from the fate of incomplete adjustment for the DTMs, arising from the fact that the base year values used in his approach include the revenue effects of the DTMs.

Choudhry (1979) has argued that in some situations, the CRS technique becomes inefficient. First, where a tax system has many progressive elements, the CRS technique does not guarantee that the estimated tax elasticity will be larger (or smaller) than that of the tax buoyancy even when discretionary changes produce negative (or positive) effects. Second, where tax bases grow at the same rate, there is the possibility that the elasticity estimate will fail to detect the effects of discretionary changes.

4.2.2 The Unadjusted HTSTD with proxies for DTMs approach

This approach estimates tax elasticity directly from HTSTD using time trends or dummy variables as proxy for DTMs. Choudhry (1979) employs a divisia index method (DIM) in which time trends are introduced as proxy for DTMs in the tax revenue and tax base functions. The approach starts with the following function:

$$\log D(n) = \log\left[\frac{T(n)}{T(0)}\right] - \sum_{i-1}^{k} B_i \log\left[\frac{B_i(n)}{B_i(0)}\right] \qquad (8)$$

where log D(n) is the index of discretionary tax measures.

To obtain the elasticity estimates, the index of discretionary tax measures is adjusted by using the following formula:

$$E_t = Z_t - \frac{\log D(n)}{\log B(n) \big/ B(0)} \qquad (9)$$

where

E_T = tax elasticity

Z_T = tax buoyancy (obtained by regressing actual tax revenue on GDP using logarithm form equation)

log D(n) = divisia index of discretionary tax revenue

log B(n)/B(0) = index of automatic growth of the proxy tax base

The problem with the DIM is that the formula derived to estimate the tax elasticity is a line integral and, in practical application, its discrete version is used, causing bias in the estimate of the revenue impact of discretionary changes. The bias can result in over or underestimating the tax elasticity depending on whether the discretionary tax changes produce positive or negative revenue effects (For the derivation and proof of the formula and its implications see Choudhry, 1979:87-121).

In an alternative approach, Chand and Wolf (1973), Khan (1973), and Artus (1974) incorporate one dummy variable (simple or mixed) as a proxy for each of the DTMs introduced during the periods of their review to estimate tax elasticity by means of a single - equation model of the form:

$$\log(T)_t = B_o + B_1 \log(B)_t + \sum_{i=1}^{n} B_{2i} D_t + U_t \text{..........................}(10)$$

where

T = tax revenue

B = tax base (or GDP in aggregate level)

D_i = dummy variable (simple or mixed) as proxy for the i^{th} DTM taken during the period under review

B_1 = tax elasticity

The estimate of tax elasticity obtained from this approach may not be precise and reliable because of the creation of potential multicollinearity problems resulting from the inclusion of more than one dummy variable into the tax function. Ehdaie (1990) has argued that the degree of precision and reliability of the elasticity estimate are inversely related to the degree of multicollinearity, which in turn depends greatly on the time interval that existed between two successive discretionary actions taken by the tax authorities. This implies that obtaining a precise and reliable estimate of tax elasticity by means of this approach is empirically impossible, particularly when there are frequent discretionary tax changes during the review period.

The approach adopted in this study to estimate the tax elasticity's is the unadjusted HTSTD with proxies for DTMs using the dummy variable adjustment technique.

4. 3 Methods

The econometric testing of the macroeconomic time series will incorporate stationarity testing to avoid the spurious regression associated with trended time series and to allow for an analysis of the longrun equilibrium relationship between the variables.

4. 3.1 Stationarity Testing

According to Maddala (1992) it is improper to conduct a macroeconomic study without testing for the time series properties of the data.

By definition, a time series is stationary if its mean, variance and autocovariances are independent of time. Conversely, the mean and or variance of a non - stationary process are time - independent.

The unit roots tests that will be considered are the Dickey Fuller (DF) and Augmented Dickey Fuller (ADF) that enable us to test whether variables are stationary, I (0) or need to be differenced several times to induce stationarity. However, one has to guard against arbitrarily differencing data as it might lead to loss of longrun relationships between variables. These tests are formulated as follows:

4. 3.2 Dickey Fuller

The test can best be explained by considering three different equations as specified below:

$\Delta X_t = \pi X_{t-1} + e_t$ .... (1)

$\Delta X_t = \alpha + \pi X_{t-1} + e_t$ .... (2)

$\Delta X_t = \alpha + \pi X_{t-1} + \beta_t + e_t$ .... (3)

The difference between the three equations lies in the presence of the deterministic elements and β_t. The first is a pure random walk model, the second adds a drift term, and the third both a drift and linear time trend. All the equations are subject to the null hypothesis that Xt sequence contains a unit root and the error term (et) is white noise process. (i.e. Ho: to = 0 (non - stationary or unit root). However, the critical values of the t- statistics depend on whether an intercept and or time trend is included in the regression equation.

4. 3.3 Augmented Dickey Fuller Test (ADF)

The ADF follows the same procedures as the DF test, but only differ from the latter in that it considers more lags to capture any additional dynamics.

4.3.4 Cointegration Testing

One way to avoid spurious regression is to find out if the time series are cointegrated. This occurs when the linear combination of two variables are stationary and they will be on the same wavelength if they are integrated of the same order (Maddala, 1992). There are a number of cointegration tests, but this study will consider the Engle and Granger two step procedures due to data limitations. Other sophisticated testing procedures such as the Johannsen test will not be considered as it can only be applied to large observations.

4.3.4. The Engle - Granger Two Step Procedure

The first step of this test involves exploring the levels or equilibrium part of the error correction model to establish weather the variables cointegrate. Essentially, we have to save the residuals from the OLS applied to the series on levels. Due to the properties of super convergence (merging) the estimated parameters can be viewed as an estimate of the long run and the residual (lagged once) can be used as an error term (Sjoo, 1997).

The second step, in the two step procedure, is to test for a unit root in the residual process of the cointegrating regression obtained in the first step.

The null hypothesis for this test is that the estimated error term has a unit root and the alternative is that the variables are cointegrated. Although this testing procedure tend to be limited to bi-variate analysis a logical chain of bi-variate testing is often necessary (or sufficient) to get around this problem.

4.4 Sources of data

Availability of data has been a main constraint on the study. Data have been collected in bits and pieces from a variety of sources. The study uses annual time series data for the period 1967- 1997 because data prior to 1967 is highly unreliable and not readily available. The primary source of data on government revenue and grants is obtained from the National Accounts published by the National Planning Commission (Central Statistics Office, 1994,1997) and also some various editions of Statistics/ economic reviews published by the Department of Finance, Windhoek. The International Finance statistics was also used.

4.5 Bottle-necks in the Data Used

The organization of the data has been influenced by its availability, but presented with a concern to confer the greatest possible observational credence on our analysis. Between 1962 to 1970 economic data were completely integrated into that of South Africa, and no separate information was officially released. Available estimates are sometimes inconsistent with the early data or incomparable across the different sources.

4.6 Regression Specification

Given the earlier discussions and data availability, we analyzed the following basic equations:

a) Buoyancy – Tax to Income

1) $\log RTOI = a + a_1 \log RGDPM_t + a_2 \log RGDPM_{t-1}$

2) $\log REXD = b + b_1 \log RGDPM_t + b_2 \log RGDPM_{t-1}$

3) $\log RDT = c + c_1 \log RGDPM_t + c_2 \log RGDPM_{t-1}$

4) $\log Cue = d + d_1 \log RGDPM_t + d_2 \log RGDPM_{t-1}$

5) $\log RTTR = e + e_1 \log RGDPM_t + e_2 \log RGDPM_{t-1}$

b) **Elasticity of the tax – Tax to Income**

6) $\log RTOI_t = f + f_1 \log RGDPM_t + f_2 \log RGDPM_{t-1} + f_3\, DUTOIR + f_4 DUTOIN$

7) $\log REXD_t = g + g_1 \log RGDPM_t + g_2 \log RGDPM_{t-1} + g_3 DUEXD + g_4\, DUEXD$

8) $\log RDT_t = h_0 + h_1 \log RGDPM_t + h_2 \log RGDPM_{t-1} + h_3\, DUDTR + h_4 DUDTN$

9) $\log Cue_t = i_0 + i_1 \log RGDPM_t + i_2 \log RGDPM_{t-1} + i_3\, DuCue$

10) $\log RTTR_t = j_0 + j_1 \log RGDPM_t + j_2 \log RGDPM_{t-1} + j_3 DUIGR$

c) **Decomposition of Elasticity – Tax to Base**

11) $\log RTOI_t = k_0 + k_1 \log RGDPF_t + k_2 \log RGDPF_{t-1} + k_3\, DUTIOR$

12) $\log REXD_t = l_0 + l_1 \log REX_t + l_2 \log REX_{t-1} + l_3\, DUIGR$

13) $\log DT_t = m_0 + m_1 \log PROXY_t + m_2 \log PROXY_{t-1} + m_3\, DUDTN$

14) $\log CUE_t = n_0 + n_1 \log RIM_t + n_2 \log RIM_{t-1} + n_3\, DUCUEI$

d) **Decomposition of Elasticity – Base to income**

15) $\log RGDPF_t = o_0 + o_1 \log RGDPM_t + o_2 \log RGDPM_{t-1} + o_3\, DUTOIR$

16) $\log REX_t = q_0 + q_1 \log RGDPM_t + q_2 \log RGDPM_{t-1} + q_3 DUIGR$

17) $\log Proxy_t = r_0 + r_1 \log RGDPM_t + r_2 \log RGDPM_{t-1} + r_3 DUDTN$

18) $\log RIM_t = s_0 + s_1 \log RGDPM_t + s_2 \log RGDPM_{t-1} + s_3 DUCUEI$

Where

RTOI= real taxes on income and profits

REXD = real export duty on diamonds

RDT = real domestic taxes on goods and services

RCUE = real customs receipt and excise duty

RGDPF = real GDP at factor cost

REX = real exports of diamonds

RPROXY= imports (f.o.b) plus manufacturing output

RIM = Imports (f.o.b)

RTTR = real total tax revenue

GDPM = GDP at market price

DUTIOR,DUTOIN,DUGRI,DUDTN,DUCUEI are various dummies to capture the historical changes in the tax system.

The regression results are presented in Table 5.2

CHAPTER FIVE

5.0 Empirical Analysis

5.1 Proxy Bases

As discussed in the previous chapter, this paper considers the decomposition of income elasticity into tax-to-base elasticity and base-to-income elasticity. The proxy base taken for taxes on income and profits was the GDP at factor cost, and for export duty on diamonds it was the export of diamonds. The proxy base for domestic taxes on goods and services was the manufacturing output plus imports (fob). The proxy base for customs receipt & excise duty was imports (fob).

5.2 Application of analysis to Namibia

The following should be noted in relation to both short and long run result presented below:

1) The regression equations were specified in the log linear form for ease of interpretation. They are also in real terms (base =1990), denoted by (R), to take into account the effect of inflation.
2) To estimate the tax to base elasticity for taxes on income and profits, Domestic taxes on goods and services, and Customs receipts & excise duty, a one-year lag of the explanatory variable was added to each equation. These modifications were made to the equations to enable us reasonably to capture the budgetary process in Namibia as it relates to each of the revenue sources. In practice, policy proposals in the annual budget are based on the performance of each revenue source in the preceding period (Ariyo, 1997). For example, revenue source that performed above expectation in the out-going fiscal year are given

more ambitious targets in the new fiscal year-end are put under greater surveillance.

3) Administrative lag is another major factor. New policy guidelines announced in the budget speech may not be implemented until the relevant circulars are issued. It may take up to six months, however, from budget announcement before the contents of such circulars are implemented.

4) For taxes on income and profits, particularly the company taxation, most companies do not discharge their tax liabilities until long after the annual general meeting. The one year lag of the explanatory variables which was added to each equation will show not only the relevance of this lagged values, but also its relative influence compared with current years values. If there are pronounced administrative lags or delayed remittances, for example, the lagged value will be more significantly associated with the dependent variable in each equation.

5) Interpretation of the statistics adjusted R^2 for the total tax system and for individual taxes is important, since this statistic measures the extent to which changes in tax revenue are systematically correlated with changes in GDP. For total taxes, the level of adjusted R^2 is 0.93, indicating that correlation is quite high. This finding is of some interest, as many aggregate economic models assume that tax revenue is functionally related to GDP (Mansfield, 1972:435). The high level of adjusted R^2 for total taxes in Namibia would tend to bear out this assumption purely statistical, as opposed to causative grounds.

6) The joint F- statistic indicates that the joint sets of explanatory variable have a significant influence on the dependent variable. The D.W. statistic tests f

presence of serial correlation, which is sometimes, called autocorrelation, which is a correlation of the error terms arising in time series data.

(7) Dummies were used for discretionary changes made on each tax over the entire period. These are denoted as follows:

DUTION = dummy for new taxes on income and profits.

DUTOIR = dummy for changes in tax rates for income and profits .

DUIGR = dummy for change in regime

DUEXR = dummy for changes in tax rates for export duty

DUDTR = dummy for changes in tax rates for domestic taxes.

DUDTN = dummy for new taxes on domestic taxes

DUSUI = dummy for inclusion of Namibia into SACU revenue pool

Applying simple ordinary least squares techniques on PCGIVE-package, single log-linear equations were used to estimate buoyancy and built-in elasticity of individual taxes and the overall tax system. The variable used in the analysis were first tested for their time characteristics, that is whether they are stationary or not, and whether the subsequent estimation should be done on the variables on their levels or needs to be differenced [I(1) series] or second differenced [I(2) series] to induce stationarity [I(0)series]. using the PCGIVE-package only the ADF tests provide details on this. The ADF test is based on the null hypothesis that the variables exhibit unit root (non-stationary), relative to the alternative hypothesis that the variables are stationary. The cointegration, to avoid spurious regression and to established any long run economic relationship between the dependent and independent variables were carried-out using the Engle-Granger Two Step procedure. In the Engle- Granger procedure, we first save the residual from the level equations, and in the second step, we test for unit root in the residual. Due to the properties of super convergence the estimated parameters in the levels equation are viewed as long run estimates and the residual(lagged once) can be used as an error correction term.

5.2.1 Unit Root test on the variables in the model

Unit root test was applied to variables in their levels and differences for the sample period 1967-1997. The ADF statistics is presented on page 57.

The decision criteria of the ADF tests is: when the absolute value of a calculated statistic is greater than the absolute value of the critical statistic we conclude that a given variable is stationary i.e. accepting the alternative hypothesis. The critical values of the test depend on whether a test was done with a trend or without a trend. From these above results, given that the critical modified ADF is less than the computed ADF in absolute terms, the null hypothesis was rejected therefore, accepting that there exists a long run relationship between the variables, which can best explained by an error-correction model which incorporates short run impacts as well as feedback effects to indicate the speed of adjustment to long run equilibrium. All the variables were found to be stationary after the first differencing, implying that these variables are integrated of order one.

Table 5.1 The ADF Statistics

Variable	With-trend	1 %	5%	Order of Intergra.	W/out trend	1%	5%	Order of Intergra.
LTOI	-1.970	-4.323	-3.58	(NS)	-1.475	-3.685	-2.971	(NS)
ΔLTOI	-3.787	-4.338	-3.587	I(1)	-3.863	-3.696	-2.975	I(1)
LREXD	-2.154	-4.323	-3.58	(NS)	-2.187	-3.685	-2.971	(NS)
ΔLREXD	-4.472	-4.338	-3.587	I(1)	-4.563	-3.696	-2.975	I(1)
LRDT	-2.107	-4.323	-3.58	(NS)	-0.095	-3.685	-2.971	(NS)
ΔLRDT	-4.245	-4.338	-3.587	I(1)	-4.320	-3.696	-2.975	I(1)
LRCUE	-3.184	-4.323	-3.58	(NS)	-1.083	-3.685	-2.971	(NS)
ΔLRCUE	-5.857	-4.338	-3.587	I(1)	-5.980	-3.696	-2.975	I(1)
LRGDPF	-1.670	-4.323	-3.58	(NS)	-1.689	-3.685	-2.971	(NS)
ΔLRGDPF	-5.697	-4.338	-3.587	I(1)	-5.575	-3.696	-2.975	I(1)
LREX	-2.197	-4.232	-3.58	(NS)	-2.157	-3.685	-2.971	(NS)
ΔLREX	-3.972	-4.338	-3.587	I(1)	-4.072	-3.696	-2.975	I(1)
LRPRO.	-2.298	-4.232	-3.58	(NS)	-0.567	-3.685	-2.971	(NS)
ΔLRPRO.	-4.785	-4.338	-3.587	I(1)	-4.818	-3.696	-2.975	I(1)
LRIM	-2.609	-4.232	-3.58	(NS)	-1.833	-3.685	-2.971	(NS)
ΔLRIM	-5.067	-4.338	-3.587	I(1)	-5.103	-3.696	-2.975	I(1)
LRTTR	-2.217	-4.232	-3.58	(NS)	-1.039	-3.685	-2.971	(NS)
ΔLRTTR	-5.204	-4.338	-3.587	I(1)	-6.702	-3.696	-2.975	I(1)
LRGDPM	-0.908	-4.232	-3.58	(NS)	-0.881	-3.685	-2.971	(NS)
ΔLRGDPM	-3.753	-4.338	-3.587	I(1)	-3.172	-3.696	-2.975	I(1)

Note: TOI = Taxes on income and profits ; EXD=Export duty on diamonds; DT = Domestic taxes on goods and services; Cue = Customs and Excise duty; GDPF= GDP at factor cost EX= Exports of diamond IM = imports PRO= Proxy base for DT. TTR= Total tax revenue GDPM = GDP at market price. I(1)= Integrated of order one. NS= Non-Stationary.

For the purpose of this paper the error-correction model results will be interpreted in details, for ease understanding of the many equations involved. Estimation of an error-correction model (ECM) involves first, differencing the all variables once and adding the lagged error term. The error correcting terms indicates a speed of adjustment varying between 60%-90% for all equations, from actual taxes in the previous year to equilibrium taxes. Given that the adjustment speeds are not significant different from 1 then, they indicate that errors are fully corrected within one year. Error corrections terms are significant shown by they're high t-ratios, which shows a good specification for the ECM.

Table: 5.2 The OLS Regression to Test The Revenue Productivity of the Tax-system in Namibia: 1967-1997.

Regressors	Equation 1	Equation 2	Equation 3	Equation 4	Equation 5	Equation 6	Equation 7	Equation 8	Equation 9	Equation 10
Constant	0.0333* (1.789)	0.0083** (2.629)	0.0734* (1.654)	0.0844 (0.011)	051661* (1.896)	0.1115 (1.469)	0.045988 (1.356)	0.08726 (2.212)***	0.05889 (0.678)	0.036939 (1.018)
Log $DRGDPM_t$	1.032* (1.649)	2.033** (2.9103)	1.247** (2.083)	1.4562* (1.936)	1.7726** (2.569)	0.8872** (9.510)	2.6107** (3.135)	0.99659 (3.0136)***	1.9546 (2.4622)**	1.8279 (3.593)**
Log $DRGDPM_{t-1}$	0.6212** (3.066)	0.2558 (1.0716)	0.2488* (1.571)	0.7536* (1.721)	0.9684** (2.156)	3.3995** (3.703)	0.53460 (0.174)	0.12926 (2.6933)***	0.8572 (1.851)*	1.195 (2.548)**
DUTOIR						0.1322* (1.564)				
DUTION						0.30546* (1.895)				
DUEXD							-0.15473 (0.694)			
DUIGR						0.26642 (1.123)	-0.17840 (1.289)	0.084542 (0.875)	0.07525 (0.392)	0.06532 (1.1516)
DUDTR								0.28035 (1.899)		
DUDTN								0.13435 (0.837)		
DURTTR										0.11715 (1.615)*
DUISC									1.25677 (1.8799)*	
Error-corr.term	-0.64716* (-1.952)	-0.71922* (-1.8562)	-0.5130* (-1.6235)	-0.73361** (-2.6893)	-0.67889* (-1.7564)	-0.77423** (-3.5623)	-0.76028** (-4.2563)	-0.832846* (-1.8796)	-0.89418** (-2.0157)	-0.8837** (-3.689)
Functional form	F(9,15) 0.458 (0.880)	F(9,15) 0.8692 (0.5708)	F(9,15) 0.677 (0.7184)	F(9,15) 0.8964 (0.5510)	F(9,15) 0.84665 (0.5875)	F(14,8) 0.27346 (0.9834)	F(15,7) 0.4113 (0.9296)	F(8,14) 0.63526 (0.7742	F(10,13) 0.69832 (0.7117)	F(13,10) 0.67511 (0.7504)
Heteroskedasticity	F(6,18) 0.185 (0.977)	F(6,18) 0.5854 (0.7376)	F(6,18) 0.78874 (0.5902)	F(6,18) 0.40004 (0.682)	F(6,18) 0.4779 (0.7412)	F(8,14) 0.30396 (0.9522)	F(8,14) 0.48804 (0.8452)	F(8,14) 0.53323 (0.8130)	F(7,16) 0.0238 (0.94520)	F(7,16) 0.0716 (0.74245)
F-statistics	F(3,25) 5.994	F(3,25) 9.1313	F(3,25) 13.5185	F(3,25) 11.8767	F(3,25) 11.3415	F(6,22) 14.6351	F(5,23) 17.6434	F(6,22) 21.008	F(6,22) 22.6038	F(6,22) 18.5694
D.W-statistics	2.503	2.753	2.891	2.795	2.402	2.05	2.54	1.83	2.27	2.07
Normality	$\chi^2(2)$ 10.789 (0.00045)	$\chi^2(2)$ 10.1414 (0.00154)	$\chi^2(2)$ 7.5532 (0.0229)	$\chi^2(2)$ 52.323 (0.0000)	$\chi^2(2)$ 17.709 (0.0001)	$\chi^2(2)$ 18.8196 (0.0000)	$\chi^2(2)$ 63.46453 (0.0000)	$\chi^2(2)$ 14.773 (0.0006)	$\chi^2(2)$ 62.181 (0.0000)	$\chi^2(2)$ 15.919 (0.0003)

Regressors	Equation 11	Equation 12	Equation 13	Equation 14	Equation 15	Equation 16	Equation 17	Equatio 1
Constant	0.0744 (1.022)	0.0200 (0.589)	0.043921 (1.233)	0.06655 (0.847)	0.0462** (3.854)	0.02823 (0.5853)	0.027521* (1.535)	0.00645 (0.285)
Log $DRGDPM_t$					0.8966** (3.399)	1.6343** (2.969)	1.7735** (4.462)	1.5213** (3.017)
Log $DRGDPM_{t-1}$					0.50988* (2.103)	0.61823* (1.563)	0.03174 (0.090)	0.1032 (0.234)
DUTOIR	0.0322* (1.714)				0.0473 (1.110)			
DUTION	0.5080** (2.729)				0.009 (0.219)			
DUEXD		-0.27150 (1.356)				0.22399 (1.353)		
DUIGR	0.0132 (0.106)	0.016145 (1.2412)			0.0260 (0.790)	0.13347 (1.296)		
DUDTR			-0.19728 (1.432)				0.0287 (0.394)	
DUDTN			.29226* (2.170)				0.07898 (1.160)	
DURTTR								
DUISC				0.32647 (0.804)				0.09255 (0.829)
Log $DRGDPF_t$	0.4923** (6.827)							
LOG $DRGDPF_{t-1}$	0.4504** (5.506)							
Log $DREX_t$		0.7097 (6.198)**						
LOG $DREX_{t-1}$		0.27150 (2.192)*						
Log $DRIM_t$				0.8758* (1.889)				
LOG $DRIM_{t-1}$				0.74508* (1.799)				
Log $DPROXY_t$			0.64785* (1.608)					
LOG $DPROXY_{t-1}$			0.75692* (1.872)					
Error-corr.term	-0.83265** (-6.2660)	-0.71527** (-3.977)	-0.78071** (-4.6059)	-0.87518* (-2.211)	-066124** (-4.5856)	-0.87832** (-5.9305)	- 0.764776** (-8.1274)	-0.92011* (-2.5019)
Functional form	F(14,8) 0.32954 (0.9666)	F(14,8) 0.35697 (0.7894)	F(12,10) 0.15624 (0.9982)	F(10,13 0.5106 (0.6394)	F(14,8) 0.2295 (0.6934)	F(15,7) 0.13041 (0.9995)	F(10,13) 0.45172 (0.8932)	F(12,10) 0.51732 (0.8607)
Heteroskedasticity	F(8,14) 0.6268 (0.78069)	F(8,14) 0.6609 (1.1941)	F(8,14) 0.22151 (0.9809)	F(7,16) 0.1031 (0.9596)	F(8,14) 0.1153 (0.8046)	F(0.22692) 0.22692 (0.9794)	F(7,16) 0.27947 (0.9529)	F(8,14) 0.53376 (0.8126)
F-statistics	F(6,22) 12.236	F(5,24) 13.026	F(4,25) 22.6038	F(5,23) 25.0417	F(6,22) 13.7855	F(5,23)	F(6,22) 20.53059	F(5,23)
D.W-statistics	1.53	2.69	2.27	2.08	2.43	2.74	1.68	2.73
Normality	$\chi^2(2)$ 13.8299 (0.0009)	$\chi^2(2)$ 24.29632 (0.0000)	$\chi^2(2)$ 23.1184 (0.0000)	$\chi^2(2)$ 20.015 (0.0000)	$\chi^2(2)$ 16.5872 (0.0000)	$\chi^2(2)$ 11.2223 (0.0012)	$\chi^2(2)$ 25.36548 (0.0000)	$\chi^2(2)$ 23.10967 (0.0000)

Notes: The table shows OLS estimates of the tax system. The numbers in parenthesis are t-ratios and probability of rejecting the null hypothesis in the of case the diagnostic tests. 1%= **, 5%= *

5.2.2 Diagnostic tests

The D.W. test for serial correlation does not provide any indication of the presence of serial correlation for all equations. As a rule of thumb, a D.W.- statistic that is close to two, shows an absence of serial correlation. The test for functional form does not show that the functional forms of all equations are inadequate. The results of the heteroscedasticity test on the equations do not show any case for heteroscedastic problems.

5.2.3 The Short run Analysis

5.2.3.1 Buoyancy versus Built-in Elasticity

Regression technique has been used to represent and summarize the salient feature of both the adjusted and unadjusted revenue data for the overall and the major tax categories of Namibia. Table 5.2 presents a summary of the buoyancy and built- in elasticity characteristics of the various components of Namibia tax.

The buoyancy and built in elasticity of the total tax system stand at 1.7726 and 1.8279, respectively. Any increase in GDP of 1% will lead to an automatic change in tax revenue of 1.8279; this shows that the growth in tax revenue will be greater than that of GDP. This basically means that the tax system is elastic, which is desirable for the economy, especially with the changes taking place in the region.

The major cause of the increase in total tax revenue over the years, therefore can be highly attributable to automatic changes and to a lesser extent to discretionary undertaken by the authorities. This shown by great value of built in elasticity coefficient over the buoyancy coefficient. Given that the legal changes are less effective that the automatic changes then this means that the increase of revenue is not in the hand of the government. This is evident given the role played by international trade taxes such as export duty on diamonds and the role played by customs receipts which are beyond the control of the Namibian government, yet they contribute almost to 30% of total revenue.

The high built-in elasticity of the overall tax system is highly desirable and it leads to the rejection of the working hypothesis as it stated in chapter one.

Estimates of different major components of tax in Namibia show that not only the buoyancies and elasticities of different taxes vary substantially, they vary considerably for the same tax as well. The value of buoyancy varies from a high of 2.033 for export duty on diamonds to a low of 1.03 for taxes on income and profits. The value of buoyancy is greater than unity for all major tax heads. The buoyancy for the whole tax system is 1.77 indicating a quite higher rate of growth in tax yield in response to similar changes in GDP. In fact, it shows that if the historical pattern of discretionary change were reproduced over the future then each percentage point of growth in GDP would result in 1.77 percent growth in revenue.

Table 5.3 Namibia: difference between tax buoyancy and elasticity for total tax and selected major taxes, 1967-1997

	BUOYANCY	ELASTICITY	Difference(in percentage points)
Total taxes	1.7726	1.8279	-0.0553
Taxes on Income and profits	1.032	0.8772	0.1548
Domestic taxes on goods & services	1.247	0.9965	0.2505

Export duty on diamonds	2.033	2.6107	-0.5777
Customs and Excise duty	1.4562	1.954	-0.4978

The contribution of discretionary actions to the growth in tax revenue can be assessed by comparing the buoyancies with elasticities of the various components of the major tax and the tax system as a whole. Built-in elasticities vary from a high of 2.61 for export duty and 1.954 for customs receipts to a low of 0.99 for domestic taxes (which is almost unitary) and of 0.877 for taxes on income and profits. Among selected major taxes the lowest i.e. negative difference between buoyancy and elasticity was for export duty on diamonds, the most elastic tax. Suggested that the major cause for the growth of export duty revenue lies in the automatic changes, particularly the increase in the development of new mines around 1989 in areas such as Elizabeth Bay, 30 km south of Luderitz Bay and Auchas on the north bank of the Orange River. Customs receipts and excise duty, which is also elastic, exhibited a negative difference between buoyancy and elasticity again suggested that automatic changes were responsible for the growth in yield (over the period examined) and to lesser extent to discretionary measures undertaken by the government. This is true given the role played by SACU- revenue, which are beyond the control of the government, yet they contribute almost 27-30% to total revenue. Discretionary measures had little impact on tax yield from foreign trade. In fact, its impact on customs receipts & excise duty and on export duty had been negative. In contrast, taxes on income and profits, the least elastic tax, exhibited the greatest difference between buoyancy and elasticity. The major cause for the growth of taxes on income and profits therefore lies in discretionary changes, particularly the increases in tax rates over the period. The strong influence of the discretionary changes can be shown by the significance of most of the dummies. For domestic taxes on goods and services, buoyancy was larger than elasticity, which again suggested that discretionary changes were responsible for the growth in yield.

5.2.3.2 Elasticity of the Tax system

Elasticities of the total tax system and of the major taxes are presented in table 5.3. The elasticity of the total system was 1.827 over the 1967-1997 period. The elasticity of the individual taxes was rather divergent.

Table 5.4 Namibia: elasticity of major taxes and of the total tax system, 1967-1997- short run results.

	Elasticity coef.	Elasticity coef. Lagged values	Adjusted R^2	ECM coefficient	D.W
Taxes on income& prof.	0.8772 (9.510)**	3.3995 (3.703)**	0.947	-0.774 (-7.397)**	2.05
Export duty on diamonds	2.6107 (3.135)**	0.5346 (0.714)	0.714	-0.7602 (-6.249)**	2.54
Domestic taxes	0.9965 (3.0136)**	0.1292 (2.6933)**	0.773	-0.8328 (-4.9800)**	1.83
Customs and excise duty	1.954 (2.462)**	0.857 (1.851)*	0.798	-0.8941 (-2.0157)**	2.00
Total tax system	1.8279 (3.593)**	1.195 (2.548)**	0.9335	-0.8837 (-3.689)**	2.07

Notes: ** Coefficient significant at the 1 and * at the 5% level.

Before analyzing individual elasticities in greater detail, certain points should be noted:

1) The overall elasticity of the tax system of 1.827 shows that the tax system is elastic, which is desirable for the economy especially with the changes taking place in the region.

2) Export duties on diamond, the evidence suggest that the yield from this tax grew very rapidly, while a heavy dependence on international trade taxes is often considered as undesirable attribute because it may leads to instability of receipts, Namibia's dependence on export duties on diamonds actually had distinct advantages for revenue growth.

3) Customs and excise, Namibia's main source, given SACU- revenue being part of this tax, had an elasticity above unity.

4) Elasticities of taxes on income and profits are below unity and confirm with theory, that such taxes are considered inelastic in most developing countries.

5) The range of adjusted R^2 is rather wide for particular taxes, varying from high level for domestic taxes, tax on income and profits, export duty to low level for customs receipts and excise duty.

6) Most of the dummies included in the study tend out to be insignificant and therefore were not included in the analysis that follows below.

5.2.3.2.1 A Decomposition of Elasticities

It has been shown that the elasticity of a given tax,($\Delta T_K/\Delta Y$ x Y/T_K), is composed of two elements: the elasticity of the tax collected relative to the base and the elasticity of the base to income. Thus the income elasticity of a given tax is a product of tax- to- base and base-to- income elasticities. Since the legal base of each tax is not available, the yield of four major types of taxes in Namibia- accounting for about 95 percent of total tax revenue- have been related to GDP. These relationships are summarized in Table 5.4 and are discussed below.

Table 5.5 Namibia: decomposition of tax elasticitities, 1967-1997

The unadjusted HTSTD with proxies for Dams approach

Tax & proxy base	Tax-to-income elasticity			Base-to-income elasticity			Tax-to-base elasticity		
	Coeff	Adj. R^2	D.W.	Coeff.	Adj.R^2	D.W.	Coeff.	Adj.R^2	D.W
TOI & GDPF	0.877	0.947	2.05	1.8966	0.810	1.43	0.492	0.846	1.70
EXD &ED	2.610	0.714	2.54	1.634	0.818	1.89	0.709	0.739	1.69
DT & MOI	0.996	0.773	1.83	1.521	0.888	1.70	0.647	0.8005	2.27
CUE & IM	1.954	0.798	2.00	1.773	0.9113	1.68	0.875	0.6507	2.08

a) Taxes on Income and Profits

This includes all taxes on income and profits from (a) diamond mines, (b) other mining companies, (c) other non-mining companies and (d) individual income. The results shows that the GDP at factor cost- the base for all this direct taxes is income elastic. Or in other words GDP at factor cost income grew at a faster rate than the GDP in Namibia. Since the built-in income elasticities of direct taxes were less than unity , high income elasticity of the base to these taxes meant that their corresponding built in tax to base elasticities will be even lower as can be noted from the table. But theoretically the direct taxes particularly the income tax, is very progressive in Namibia. Therefore, tax exemptions, evasions can be pointed out as the primary cause of low built- in tax to base, and clearly, tax collections have lagged behind the growth of the tax base, making it an inelastic source of revenue. Nevertheless the adjusted R^2 is quite high for all three equations, indicating that the function assumed is a good fit for the data.

b) Export duty on Diamonds

Diamonds are the most important minerals in Namibia, contributing about 25 per cent of its exports. Export duty on diamonds show an interesting pattern in that the base – export – rose more or less proportionately to GDP(1.634 base- to income elasticities), but the tax –to- base elasticity was low(0.709). Exemptions from export duties, given deliberately to help exporters when market conditions warranted, account for the low and random nature of the tax to base coefficient. It is interesting to note that, the overall elasticity for export duty was 2.607 and adjusted R^2 statistic is relatively high for all three coefficients, indicating that the function assumed is a good fit of the data.

c) Domestic taxes on goods and services

The built- in income elasticity of this tax is slightly less than unity at 0.996 and hence the corresponding built-in tax- to- base elasticity is also quite low at 0.647.

Obviously, elasticity of domestic taxes on goods and services could be higher if the tax to base elasticity had not been that low, because the base to income elasticity i.e. manufacturing output plus imports (1.77) elasticity is quite high.

Here again lack of efficient tax administration and tax avoidance would seem to be the primary problem. Another problem is that when the GST and ASD are combined, too many rates result. Cumbersome tax rates comprising of wide array of concessionary rates duty rates granted to certain industrial units, and more general concessions for producers in less developed regions, tax rate for a particular good being dependent on end use and the regional location of user etc. make tax administration very difficult and tax avoidance easy as taking advantage of the complex tax structure and various loopholes becomes easier.

The adjusted R^2 statistic is relatively high for all three coefficients, suggesting that the function assumed is a good fit for the data.

d) Customs and Excise duty

This tax has been always the Namibian main source of revenue. The inclusion of Namibia as a member of SACU has strengthen this source since the SACU receipt were treated as taxes and they contribute almost 30 percent of the revenue. It's base, the imports fob has grown at a slightly faster rate than the GDP i.e. stands at 1.52. Although the tax to base elasticity is low at 0.875 this can be explained by Namibia's loss of fiscal freedom to use excise taxes for distributional and revenue purposes due to the their inclusion in the SACU revenue pool. But the overall elasticity tax to income elasticity is quite high at 1.9 showing a very interesting pattern, and this mainly explained by the SACU receipts. The tax-to-base adjusted R^2 was quite low indicating no systematic correlation, due to the failure to incorporate discretionary actions implemented by South Africa, which have a direct impact on other SACU- members. These could not be incorporated due to their immediate unavailability. Nevertheless the Adjusted R^2 statistic is high for the other two equations.

5.2.3.2.2 Summary of Decomposition analysis

Analysis of the components of the overall tax elasticities brings out the importance of the generally low values of tax-to-base elasticities as the key factor in explaining the fairly low elasticity of the system. This conclusion follows from the fact that the bases for domestic taxes,customs& excise duty, export duty(accounting for the bulk of tax revenue) grew more rapidly that GDP. If tax collections had grown at least proportionately with these expanding bases, overall elasticity would have been much higher. Improvement in tax –to-base elasticity arises from a variety of elements, such as simplifying the many current rates on domestic taxes on goods and services, including better tax administration and prevention of evasion, as well as elements of tax policy, such as using ad valorem rates to increase revenues as the value of the base rises(Mansfield,1972;439).

CHAPTER SIX

6.0 Conclusion and Policy recommendations

6.1 Conclusion

The overall budget deficit anticipated for the fiscal year 1999-2000 amounts to N$779 million or 4.2 per cent of the projected GDP of N$19 billion. This is a trend in contrast to other countries of Sub-Saharan, where according to recent World Bank figures fiscal deficits since 1993 on average shrank from 4.3 percent to 2.9 percent of GDP(The Namibian budget:1999-2000, In review). Namibia shows an adverse direction, which is not so much worrying presently for the dimensions of both, budget deficit as well as debt, but more so because of the dynamics of the process. While the proportions of deficits and debt seem still to be within manageable margins, the short period of time in which liabilities have been accrued is a matter of concern.

Overall public debt rises during the fiscal year from N$3.9 to N$ 4.5 billion or 23.5 per cent of GDP. Namibia ought to undertake serious effort to a halt before the size of both, budget deficit as well as overall debt burden becomes unmanageable. In the current budget debate on the importance of SACU revenue, The Minister of Finance made extensive reference to the SACU arrangement and ongoing negotiations for modification of the agreement. He refrained, however, from any concrete forecast except admitting that "the many uncertainties and factors beyond Namibia's control ..could lead to revenue losses". Notwithstanding a bleaker future, SACU revenue income for this financial year increases to 32 per cent. In other words, almost one third of state income for 1999/2000 is made up of this revenue.

This is a matter for concern as SACU revenue is likely to decline markedly in the medium to long-term. While the Minister indicates awareness of this fact, he is not yet in the position to come up with any forward-looking deliberations how to address this problem. It would certainly be too soon to expect him to offer solutions (The Namibian,1999). But it could be on the other hand too late to start tackling the issue only when the financial constraints have materialized. All these point towards the need for the government to act quickly.

An estimate of income elasticities of individual taxes and total taxes, in this study suggests that the Namibian tax structure is elastic. An elastic tax structure is appropriate in a developing economy because it implies that tax collections will grow automatically with growing income without the need to resort to any politically sensitive increase in tax rates (Osoro, 1993). Since elasticity is as important element of taxation in a developing economy, the authorities must be able to identify those taxes, which are elastic, and those, which are not. To raise the overall elasticity of the tax system requires focusing on those taxes, which are most income elastic. This does not mean that inelastic taxes should be ignored, ways on how best to improve them should be considered.

The empirical evidence also shows that Namibia can reasonably be categorized as being at its middle stage of development, that is, a stage where the importance of foreign trade taxes as well as internal indirect taxes increases. Although the concentration on indirect taxes indicates that rate and base changes in direct taxes were not tried. This is probably because they were less likely to produce certain revenue gains without the prospect of significant accompanying administrative effort. It has been noted in this connection that the necessity of raising tax revenue in developing countries may lead to a lopsided development of the tax system through the frequent raising of rates on easily administered taxes while taxes that are difficult to administer are neglected (Hart,1970).

In considering the individual taxes performance, the analysis shows that, all the tax base (legal and/ or proxy) are quite elastic with respect to national income, hence the low tax to base elasticities seem to have been a result of sloppy administration combined with the existence of generous exemptions and tax avoidance, especially by major companies and also the corporate taxes of 38% compared to that of South African rate of 35% can be major cause of tax evasions. In the case of personal income tax the current number of rates is too high and reduces its effectiveness. These show the extent to which tax authorities can influence the tax-to-base elasticity. Base-to income elasticities is influenced by the structure of the economy as it grows, therefore there is very little leeway for the authorities to improve these elasticity since the growth of the tax base is outside their control.

6.2 Policy Recommendations

While there would be revenue implications which Namibia cannot ignore, the likelihood of Namibia being unable to recover lost revenue from SACU could be minimized by proper preparation for tax reform along the lines outlined in this section that follows. Firstly, even a reformed SACU does not mean that revenue from tariffs will disappear: there will be some tariff rates, although more modest than at present, as well as some SACU pay out. Secondly, in a reformed SACU, Namibia will have regained its ability to set its own excise rates. Thirdly, Namibia could in principle, combine the General Sales Tax and Additional Sales Duty into one tax, preferably a value-added tax, set at rate to generate the required revenue. The setting of excise tax rates and one VAT rate would also remove another SACU-related administrative complication-that of multiple sales tax rates, one tax being a proxy for excise taxes which Namibia has been unable to set under the terms of the SACU Agreement.

Since the primary function of the tax system is to generate revenues, the first goal on any reform of the tax system is to ensure that this function is discharged effectively. The second goal is to raise the efficiency of taxation by ensuring that, for a given level of revenue, taxation interferes as little as possible in decision made by firms (on production, trade and investment) and by households (about consumption and savings). A third goal of tax reform is to lift the tax burden on the poorest households and to ensure that actual tax structure become more equitable both horizontally and vertically. A fourth objective of any reform is to simplify tax legislation and structure, and strengthen tax administration to achieve these objectives. A good tax is critical to achieving these objectives. The good tax should be relatively easy to administer, low enough to avoid creating an incentive for evasion and should not introduce serious economic distortions.

6.2.1 Changes in the Tax Structure

The study recommends that the VAT be the cornerstone of the tax reform, primarily because it will be more efficient. The increased efficiency will arise from its administrative advantages and its economic neutrality. It should be noted that VAT is not a genuinely new form of taxation, but merely a sales tax, which is administered, in a different form. An appropriately designed VAT should ideally have the fooling features. It should be based on consumption as this is a broad-based measure, and use the destination principle in which exports are zero-rated (transactions for exports are exempt) but imports are taxed. VAT should preferably have a single rate because multiple rates engender administrative complexity and increase costs. In addition , single rates are easier to enforce than multiple rates. While there may be scope for limited exemptions because of the potential regresivity of VAT, these should be carefully assessed for their effects on the overall revenue collected; the need to maintain a uniform VAT; the probability of them benefiting the targeted group; and not be numerous enough to force the VAT rate to a high level which would encourage evasion or make it too complicated administratively. It would be better to address any remaining regressity through mechanisms other than exemptions, for example by increasing luxury excises.

A revenue-neutral VAT rate would not affect the price level. The final VAT rate will have to be set in relation to an empirical analysis of yield, and bearing in mind that compliance declines at very high tax rates, and given the VAT rate in South Africa (14 percent).

6.2.2 Personal Income taxes

The current number of rates under the personal income tax(6), while representing a reduction, is still high and reduces its effectiveness. The fewer the number of rates, the simpler and more transparent the tax will be, thereby facilitating compliance and administration. Fewer rates also mean that the adverse impact of inflation (which pushes taxpayers into higher tax brackets independently of what is happening to their real income) is reduced.

6.2.3 Company Tax and Fiscal Incentives

In general, fiscal incentives should be used sparingly because they can cause revenue losses and distort economic behavior. While the revenue implications of the current fiscal incentives in Namibia have not been quantified, it is clear that their existence offends against the good tax from an efficiency viewpoint. They are complex and difficult to administer. The corporate tax level should be reduced from the current 38 percent to a level closer to the South African rate of 35 percent. The reduction of the corporate tax to a rate below the top marginal personal tax rate would break a link between the two that has been present in Namibia.

6.2.4 Tax Administration

This paper has argued above that the generally low tax-to-base elasticities seem to have been a result of poor tax administration combined with the existence of generous exemptions. Accordingly, the authorities should direct their efforts towards improving administration and reducing, or totally eliminating, tax exemptions, which often erode the effective tax base. The discussion of the proposed changes in the tax structure highlighted the importance of efficient tax administration for the success of any reform. It evident from the study that tax administration requires strengthening. To summarize: in the short-term the Inland Revenue Department (IRD) must be strengthened, operations in the regional offices must be improved, measures should be implemented to increase the cost of non-compliance, and preparations should be initiated to computerized IRD. In the medium term, the recommendations center on creating a modern tax administration. Specifically, inter alia preparations would be continued for eventual computerization, collection functions would be transferred to commercial banks, and regional offices would be organized along functional lines.

With respect to Customs and Excise Administration, some progress has been made towards introducing ASYCUDA (Automated System for Customs Data). The system is designed to assist customs administration with the clearance of goods and the processing of customs documentation. The system's success will be a critical determinant of how efficiently taxes and duties on import can be collected. Nevertheless, the system will be an expensive error if staffs are not able to use it properly and are adequately trained. Thus, training should continue to be emphasized and strengthened. Qualified and trained staffs are required for customs operations whether ASYCUDA is installed or not. With respect to Inland Revenue Administration, which covers all other taxes, there is a backlog of assessments and administration is seriously in need of overhaul. The IMF reports identified serious weaknesses, and attached the highest priority to the recommendations it made in this area. Sufficient funds should be allocated to the activities of tax administration. The existing staffs are under- resourced in terms of numbers, experience and training as well as in the tools to carry their work.

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Declaration

I, the undersigned, declare that this thesis is my original work, and that all sources of material used for the thesis have been duly acknowledged.

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