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**ADDIS ABABA UNIVERSITY  
SCHOOL OF GRADUATE STUDIES**

**AN ECONOMIC STUDY  
OF TAX REFORMS  
AND EFFORT IN ETHIOPIA**



**BY**

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# An Economic Study of Tax Reforms and Effort in Ethiopia

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*An Economic Study of Tax Reforms and Effort in Ethiopia*

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## Abstract

Ethiopia as a low income country has encountered problems of fiscal deficits and limited capacity for tax administration. The country has been undertaking lots of tax reforms since 1940s as one strategy to deal with these problems. Tax reform, a change in status quae, is needed when the existing tax system is deficient in achieving its objectives - revenue adequacy, efficiency, equity and administrative feasibility. This study discusses: why tax reforms since 1940s were necessary? When were such reforms carried out? and how were they implemented? Using time series data, the study also determines tax effort indices based on aggregative regression approach.

The analysis suggests that tax reforms in Ethiopia, during the past five decades, has largely aimed at increasing revenue, both through rate increasing and base broadening, rather than improving efficiency. And the tax effort indices that tell us to what extent the country was capable of raising tax revenue suggest that Ethiopia has almost succeeded in exploiting its tax base on the average. This is because tax effort indices for different periods were found to be almost unity. And the degree of openness of the economy, as measured by the relative size of foreign trade, the level of income, as proxied by per capita income and the economic structure particularly the relative size of agriculture, are found to be important factors that determine the taxable capacity of the country.

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## CHAPTER ONE

### 1.1 Statement of the problem

The primary function of a tax system is to generate adequate revenue. The amount of revenue a country raises depends on the taxable capacity of a country and tax effort. The taxable capacity of a country is measured by the ratio of tax to GDP/GNP as predicted by the regression equation. Tax effort on the other hand measures the degree to which taxable capacity is used. Specifically tax effort is an index obtained by dividing the actual ratio of taxation to GDP/GNP by the predicted ratio.

Therefore a tax effort ratio of less than one implies that the country exploits its estimated tax potential less than the average. That is to say the country has a 'preference' for a level of taxation below the average, or a low tax effort [Bird (1978, P.45)].

Consequently, we have two concepts of capacity and effort and hence four possible categories in which countries may be placed: high capacity and high effort, low capacity and high effort, high capacity and low effort and low capacity and low effort.

According to the Chelliah data for the period 1969-71, Brazil, Sudan, Trinidad and Pakistan could be good examples of the above four countries respectively [Prest (1985, P.14)]. Recently, the dominant motivation for taxation in developing countries is to finance public administration and public provision of economic and social services [see World Bank (1991)].

However, low-income African countries have encountered severe problems of fiscal deficits and limited capacity for tax administration. Past fiscal deficits have left a legacy of debt that complicated their present adjustment efforts. As one strategy for dealing with their pressing economic problems,

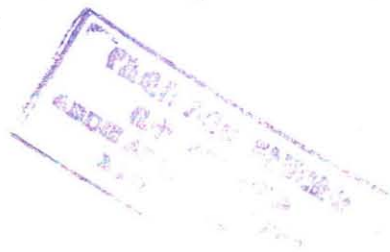
these countries undertake tax reform. Tax reform, being a change in status quae, 'involves broad issues of economic policy as well as specific problems of tax structure, design and administration' [Musgrave (1987, p.242)]. 'Tax reform as opposed to tax design, concerns the search for, and analysis of, systems which are improvements on the existing state of affairs' [Ahmad and Stern (1991, P.2)]. As a result in the 1980s, tax reform has been the major concern of most developing countries.

Among other problems, many developing countries suffer from the problem of over dependence on a small number of taxes as their sources of tax revenue (e.g import and export taxes on some products). For example, in Ethiopia taxes on foreign trade alone accounted for 52.89, 44.39, 45.18 and 30.33 percent of the total taxes collected during 1950-59, 1960-69, 1970-79 and 1990-96 respectively (see Table 1). These taxes are susceptible to external or foreign events; their levels are partly determined by world prices, and have the tendency to be volatile. These problems have compelled developing countries to undertake tax reforms [Osoro (1993, p.1)]. Here, the rationale for tax reform could be to reduce severe distortions<sup>1</sup> in economic incentives and to generate public revenue in a non-distorting, equitable and sustainable manner [World Bank (1991, P.2)].

Generating higher public revenue and lowering public spending is required to reduce fiscal deficits of developing countries. At this juncture we should be cautious. Because 'when we think of reducing public deficits, we have to weigh the economic cost of raising more revenue against the cost of cutting public spending. Because of political and administrative convenience, it is found to be tempting at least in the short term to rely on ad hoc increases in revenue' [World Bank, World development report, (1988, P.7)]. However, in many developing countries this approach has resulted in complex and highly distortionary revenue systems that fail to collect sufficient revenue and even

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<sup>1</sup> It is also designed to reduce the resulting inefficiencies and inequities in the allocation of resources.



damaged long term growth. For example in developing countries the ratios of tax revenue to GDP are typically in the range of 15 to 20 percent; whereas for industrialized nations these ratios are about 30 percent. When we look at the ratios of public expenditure to GDP, they are usually between 20 and 30 percent in developing countries; while on the other hand these ratios are above 30 percent in industrial nations. Besides many developing countries rely much more heavily on taxes on goods and services than do industrialized nations [World Bank (1991, P.2)].

As a developing country, Ethiopia has also suffered from some of the problems mentioned above - revenue inadequacy, a rising demand for expenditures, over-dependence on small number of taxes and distortions in economic incentives.

**Table 1: Level of tax revenue in Ethiopia: 1950/51 - 1996/97**  
(in Millions of Birr)

Descriptions	1950/51 - 1959/60	1960/61 - 1969/70	1970/71 - 1979/80	1980/81 - 1989/90	1990/91 -1996/97
Direct taxes	276.80	660.80	2032.40	7675.00	7929.64
Indirect taxes	210.80	849.30	1971.30	5688.00	6215.05
Foreign trade taxes	547.60	1205.50	3300.00	5218.60	8561.03
Total tax	1,035.20	2,715.60	7,303.70	18,581.70	22705.72

source: Computed from data obtained in the Ministry of Finance, Planning and Research Department (1995).

Over the past 50 years the tax system has passed through a number of tax reform phases for the sake of better economic growth and development. However, it has hardly been possible for

the country to generate adequate tax revenue which could meet the needs for current government services.

For example the tax burden, measured by the ratio of the tax revenue to GDP, has been 8.92 percent over the 1960/61 -1975/76 period. Further more, the ratio for the 1990/91 - 1996/97 period has been 11.38 percent. This ratio is small; because a tax - to -GDP ratio of at least 18 percent seems called for in most cases [Musgrave (1987, p.243)]. Even when compared to some Sub Saharan African countries, the ratio is still lower (for example compare Tanzania's 21.6 percent over the period 1979-89, Kenya's 21.4 percent over the period 1979-81, Zambia's 23.96 percent over the period 1978-80, and Zimbabwe's 23.13 percent over the period 1980-82) [Tanzi (1987, PP. 206-211)].

(1) This problem can also be associated with the problem of tax administration. That is the tax system may not be confined to what is administratively feasible. For a country like Ethiopia, simplicity is very essential. The reasons are straightforward: first, there are little or no modern techniques that facilitate tax collection; second, most of the employees involved in tax administration at the *woreda*<sup>2</sup> level have little formal education; third, the unduly complex tax laws and procedures, poor information systems, corruption and tax evasions, have made the existing tax administration too difficult to achieve its objectives.

As a result of the failure of the tax system to yield sufficient revenue and to gain administrative feasibility, the government has recorded large deficits both in its current and overall budget. Consequently, many of the regions in the country are unable to make both ends meet. Because of these problems many regions are compelled to seek additional source of income from

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<sup>2</sup> The lowest administrative structure in local government in Ethiopia.

the central government in the form of grants or transfers. This has been an incessant problem.

## 1.2 Objectives of the study

The general objective of the study is to examine the tax efforts of the country over the period 1960/61 - 1995/96 and to discuss the historical back ground of tax reform and the various major tax reforms that Ethiopia has implemented over the past five decades (1942-1997). The main questions to be addressed are: why tax reforms were necessary? when were such reforms carried out? and how were they implemented?

Specifically the objectives are to :

1. examine the major tax reforms in the context of why, when and how they were implemented.
2. determine the tax effort indices based on aggregative regression approach; and
3. identify the fundamental factors that determine the taxable capacity of Ethiopia.

Accordingly, the factors to be examined in the identification and determination of taxable capacity and tax efforts are the following:

- the degree of openness of the economy as measured by the relative size of foreign trade,
- the level of income as proxied by per capita income,
- the economic structure, particularly the relative sizes of agriculture, and
- shifts in policy regimes.

## 1.3 Significance and contribution of the study

Assessment of taxable capacity and tax effort along with analysis of the tax reforms helps to formulate sound fiscal policies by providing pertinent information with regard to the country's effort to utilize its tax bases.

Besides, it may be useful to policy makers to adapt the tax system to the existing economic condition in an attempt to stimulate the economy.

Appreciation of taxable capacity and tax effort also helps donors, foreign creditors and international agencies in appraising the government's performance as to whether the country is making a less than or more than average tax effort.

As an independent work, this study is supposed to be the first. Therefore, it is expected to contribute to both knowledge and policy formulation as it is directed towards important problems of the country.

#### **1.4 Scope and limitations of the study**

The study has some limitations with regard to appreciating taxable capacity and effort: first, there is inadequate a priori justification for the use of the selected variables to affect only capacity; second, there are difficulties of obtaining reliable data; third, the residual differences between estimated taxable capacity obtained through econometric techniques and the actual tax ratio comprise both errors of estimation and differences in tax effort. Therefore although qualitative considerations may be helpful, there is no means of exactly separating these components.

#### **1.5 Organization of the study**

The methodological organization of the study takes the following form:

Chapter two discusses the review of literature with regard to both tax reform and effort. In the third chapter, the framework of analysis will be presented (Methodology, concepts, sources and limitations of data). Chapter four sets out to discuss mainly tax reform over the past five decades (1941-1997), the statutory bases and historical back ground of the reform in

Ethiopia using government documents, proclamations and other policy pronouncements. Chapter five presents the empirical results and analysis of taxable capacity and effort. Finally, chapter six concludes (the results of the study) and puts forward some policy recommendations based on the results obtained.



## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Theory and issues of tax reform and effort.

Tax reform as a component of fiscal reform is the search for systems which are improvements on the existing state of affairs. It can also be considered as a change in status quae [see, Ahmad and Stern (1991); Osoro (1993)].

Tax reform is needed when the existing tax system is deficient in achieving its objectives- revenue adequacy, efficiency, equity and administrative feasibility.

However, all these objectives can not be satisfied simultaneously. Trade offs and interactions exist in designing tax systems. Thus tax reform can be a matter of trade offs. This makes tax reform a sensitive issue and requires ownership by the government as a necessary condition for successful implementation. And the government ought to attempt to identify the gainers and losers from a proposed tax reform [see, World Bank (1991)].

In 1980s many developing countries have been reforming their tax systems to cut public expenditures and raise revenue (in an effort to stabilize their economy) in a non distorting, equitable and sustainable manner.

Nowadays most developing countries are suffering from chronic fiscal deficits; in addition access to new borrowing is limited for a variety of reasons. Thus tax reform is primarily devoted to generate revenue so as to finance public and social services [World Bank, World Development Report (1988)].

Taxes can be raised to cut fiscal deficits. But this depends on the prevailing structure of taxes and the period over which the

deficit reduction is to occur. The narrower the base, the higher the rate that is required to generate a given amount of revenue (for example in the early 1980s, the strategy for raising tax revenue in developing countries was to increase tax rates on the existing taxes). But in some cases, higher tax rates erode the tax base through evasion and hence the amount public revenue that is generated [World Bank, World Development Report (1988)]. In other cases, higher rates will cause inefficiencies in economic behaviour [World development Report (1988); World Bank (1991)].

Precaution therefore should be taken in designing tax systems. The cost of raising additional revenue for example could be reduced by carefully designed tax systems [see World Bank, World Development Report (1988, P.101)]. Poorly designed or poorly functioning tax systems create a number of different problems (such as fiscal imbalances in resource allocation, inadequate provisions for equity and poor administration of taxes).

However, from the experience of the past decade most tax systems in developing countries have high and avoidable costs and tax reforms are at the heart of stabilization and adjustment process [World Bank (1991, P.1)]. Nonetheless, the 1980s were important periods of tax reforms world wide. During these periods, significant tax reforms in developing countries have been introduced in Bolivia, Colombia, Indonesia, Jamaica, Malawi and Mexico among other countries.

In earlier periods tax reforms had the objective of raising revenue. However, during the 1980s the main objective of tax reforms was the removal of obstacles to growth. Thus most tax reforms were revenue neutral in intention in spite of the fact that many of the countries had large fiscal deficits [see Gandhi (1987)]. Significant elements of trends of the 1980s periods include the introduction of a uniform rate value added tax (VAT) system as a standard model of commodity taxation and a change in the introduction of income tax bases.



With regard to income taxation, the tendency was to broaden the tax base so as to reduce the tax rates. As the main instrument to achieve the goal of vertical equity, income taxation seems to have been declining in importance. Rather, base broadening in combination with higher tax revenue from tax reform appears to be more effective tool. Base broadening plays a significant role in redistribution. This is because income excluded from taxation (no matter how broadly a base is defined, there will always be some incomes and transactions that escape from taxation) is largely received by high income families [Osoro (1993, P.4); World Bank (1991, P.30)].

When we consider the objectives of tax reform, it is possible to say that tax policy can't be determined with out reference to a revenue target. Revenue adequacy is the principal standard that any tax system has to achieve for better economic and social development. However, the prevailing budget deficits in many developing countries are getting worse and apparently indicate that the tax systems are not revenue productive. This is because of the ever rising demand for expenditures and limited scope for raising additional government revenues. In addition to this, some of these countries have not paid due attention to the problem and attribute the cause of budget deficits to excessive spending or temporarily adverse economic conditions [Musgrave (1987, P.9)].

As we have stated earlier, trade offs are necessary in designing a tax system to solve fiscal problems. For example giving priority to growth and economic independence may result in unfairness. Or priority to administrative feasibility may cause the rejection of innovations that would improve equity and economic efficiency [Goode (1984, P.77)]. Decision on priorities requires an understanding of what instruments have been used in the past and what problems have been encountered.

A country, however, could address multiple objectives by altering specific features of each tax instrument. If trade

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taxes for example were the only instrument that could be able to satisfy revenue, equity and efficiency objectives; the need for revenue could be satisfied with the proper basic rate, whilst equity requirement could be met with exclusions for the poor and higher rates on luxury imports, and the objective of industrial growth could be fulfilled with a set of protective rates for domestic industries [World Bank (1991, P. 27)]. However, a country could use, as an alternative and potentially more useful method, a different instrument for each objective.

In contrast to change in individual tax instrument, fundamental reform of taxes may be required when the entire economic system is being reformed (e.g if centrally planned economy is transformed in to market oriented economy) and when some problems of the tax system require long term solutions. For example an ad hoc increase in tax revenue to achieve macro economic balance through administratively convenient measure is only short run solution to the revenue problem. However, if the tax system is required to grow on a sustained basis, in order to keep pace with the expenditure, the basic structure of the tax system should be adjusted [World Bank (1991, P.55)].

With regard to the relationship between the stage of development and the structure of the tax system, Goode writes

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

The same is true for Ethiopia. In the 1950s, the ratio of direct taxes to indirect tax revenue was high. But latter on, in the 1960s, the ratio became smaller. However, the ratio of direct tax to indirect tax revenue has come to be dominant since 1970s again.

**Table 2.1: Variation in composition of direct and indirect taxation (percentage)**

Taxes	1950/51- 1959/60	1960/61- 1969/70	1970/71- 1979/80	1980/81- 1989/90	1990/91- 1996/97
Direct taxes	26.74	24.33	27.83	41.30	34.92
Indirect taxes	20.36	31.28	26.99	30.61	27.37
Foreign trade taxes	52.90	44.39	45.18	28.09	37.71
Total	100%	100%	100%	100%	100%

Source: Computed from Table 1

Further more, whether much of the tax revenue comes from direct taxes or indirect taxes, governments need to utilize their revenues properly so as to avoid over spending and unsustainable growth. Questions such as how the government finances its activities through taxation in such a way as to cause minimum damage and the question of determining the level of these activities require criteria. These criteria are based, by many writers, on the consequences of policies for the standard of living of both house holds and individuals now and in the future.

Ahmad E. and N. Stern stated that where the calculation of the consequences of policies for house holds is not possible, then policy choice is less firmly grounded. One has to fall back on principles and guide lines which indicate the kinds of policies that are likely to produce generally favourable consequences [Ahmad and Stern (1991, P.3)].

Simple models can be used to derive the guide lines. And one can make use of the models to make the trade offs of taxation

Therefore, the practical empirical application of the frame work of optimal taxation (to tax reform) in developing countries is not promising.

On the other hand, the fact that the tax systems in developing countries are not revenue productive may have an important implication on the tax yield to GDP/GNP ratio. The ratios of tax yield to GDP/GNP in developing countries are lower than in the developed countries. For example in 1985 the average tax GDP ratio of Sub-Saharan African countries was 17 (see Table 2). The corresponding figure for Ethiopia in the same year was lower than any of the figures shown below (see Table 5.1).

**Table 2: Level of tax revenue by Region, 1985 (percent).**

Region	Tax revenue GDP ratio (average)
1. Developing countries:	
1.1 Asia	15
1.2 Sub-Saharan Africa	17
1.3 Latin America	18
1.4 Middle East and North Africa	23
2. Industrial countries	32

Source: World Bank, 1991 P.16

The ratio is even lower for Asian countries. On the average, the four regions of developing countries have a tax ratio of 18.25. On the contrary, the corresponding figure for industrial countries is 32.

The ratio of tax yield to GDP seems to rise with per capita income despite the existence of wide variation across countries;

and this suggests that the level of income is only a partial explanation [World bank (1991, P.15)].

Similarly, the tax effort indices of developing countries are much lower than developed countries. As is stated previously, the tax effort of a country is the ratio of actual tax revenue to that which would be predicted on the basis of the taxable capacity equation [Bird (1978, P.44)]. Since the actual tax ratios of developing countries are lower than that of developed countries, the tax effort indices of developing countries also tend to be lower in magnitude if both countries utilize their tax bases to the average extent.

For example, these calculations of tax effort reveal that in 1969-71 Brazil had by far the highest tax effort among developing countries, 1.806. This index implies that Brazil collected during the period 80.6 percent more taxes than predicted. On the contrary, Nepal had the lowest tax effort index, 0.374, during the period [see Bird (1978, P.45)].

Tax effort analysis suggests where to begin in addressing a budget problem of a particular country. If the country has low tax effort index and is suffering from excessive budget deficits, then the country may divert its attention towards tax increase. However, it should be emphasized that a high or low tax effort index does not necessarily imply that taxes should be decreased or increased respectively. It is worth while to take in to consideration the economic conditions, the character and level of government expenditures, the administrative capacity and a variety of other matters [Lotz and Morss (1967, PP.478-479)].

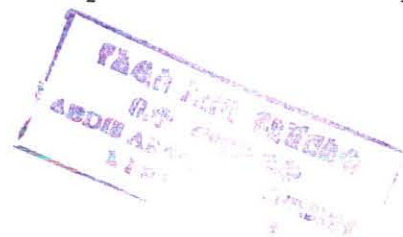
Thus a country encountered excessive budget deficit may first seek expenditure reduction mechanisms if the tax effort index is high. But it may increase taxes if the tax effort index is low [see Goode (1984)].

## 2.2 Past studies on tax reform and effort

A number of hypotheses have been advanced to explain the tax reforms and efforts in developing countries. Richard Musgrave's Study (1987), *Tax reforms in developing countries*, in David Newbery and Nicholas Stern (eds.), stated that tax reform in developing countries involves broad issues of economic policy as well as specific problems of tax structure design and administration. He further addressed the basic issues that must be faced in building a sound tax structure rather than emergency situations of fiscal imbalance or break down that require immediate attention. Musgrave followed the general approach taken by a generation of tax reform studies, beginning with the World Bank mission to Colombia in 1949 [Musgrave (1987)].

The broader issues that Musgrave discussed were tax reform and development policy, the pattern of distribution, income versus consumption base and so on. In order to secure tax reform objectives, he mentioned that differentiation in taxation may be called for where specific policy needs require it.

A prominent study on tax reform is carried out by Ehtisham Ahmad and Nicholas Stern (1991): *The theory and practice of tax reform in developing countries*. The gist of the study is best illustrated in the frontispiece of the book. 'It approaches the subject of tax reform from basic economic principles. The objectives are to develop guidelines for the design of tax; to show how the principles can structure systematic research in to tax reform in terms of the consequences for households, producers and governments; and to combine the guidelines and apply research in to a practical tax package for Pakistan, where tax reform has become an urgent priority'. Thus the principles and methods the authors developed and discussed represent an approach which can be applied pervasively across a broad range of policy problems and thus could form part of many research programs or appraisals of policy [Ahmad and Stern (1991, P.325)]. The book, however, did not attempt to calculate optimal



taxes; rather the authors' use of the theories of optimal taxation has been in the examination of basic principles arising from the traditional concerns of public finance. Accordingly, in analyzing possible reforms and in formulating recommendations the authors have paid attention to the administrative capacity of the tax system and to political difficulties. Thus simplicity in administration, ease of measurement of tax base, availability of the information relevant for a tax, possibilities for evasion and corruption, and so on, have been important issues' [Ahmad and Stern (1991, PP. 315-316)].

A similar study on tax reform was also made by Francisco Gil Diaz (1987): *Some lessons from Mexico's tax reform* in David Newbery and Nicholas Stern (eds.). According to Gil Diaz the reform has attained some of its objectives in Mexico. Gil Diaz noted:

these can be summarized as eliminating some inequities, reducing distortions, closing loopholes, adjusting the tax system for inflation, (i.e simplifying it), broadening its coverage, and increasing revenue sharing with the states. Accordingly, substantial progress was made in inflation adjustments, although a full inflationary correction of the income tax is still pending. In this respect the reform was immensely successful, especially considering the price changes that the Mexican economy had undergone in 1982, 1983 and 1984 [Gil Diaz (1987, P.355)].

Nehemiah E. Osoro on the other hand, in his study *Revenue productivity implications of tax reform in Tanzania*, concluded that tax reform during the past three decades has largely focused on increasing revenue rather than improving efficiency. According to Osoro, the target of simplifying the system was set during the second half of the 1980s. In Tanzania, tax reform has been used as an instrument of raising revenue thereby broadening the tax base and increasing the tax rate [Osoro (1993, P.9)].

Another luminous study on tax reform under the title *Lessons of tax reform* was performed by the World Bank in 1991. The paper assesses the 'lessons from experience in reforming general taxes

administered at the national level. It has tried to draw some lessons of tax reform from a number of developing countries that have successfully undertaken, albeit the difficult and unpopular choices involved, major tax reforms in the 1980s. Accordingly, experiences of tax reform discussed in the study include the case of Indonesia's value added tax (VAT), which used to broaden the base of tax on goods and services; the case of Mexico (broadening the base of the company income tax by limiting promotional incentives); the case of Jamaica (broadening the base of personal income taxes) and the case of Turkey (broadening the base of taxation through the use of presumptive indicators). The paper was intended as a brief on issues and options in tax policy and as a review for World Bank economists evaluating tax reform in operational work. Indeed, it provides a concise synthesis of current thinking and practice with regard to tax reform in developing countries. According to the paper, major tax reforms are required when there is a need for improvements in the incentive structure and a reduction in distortions imposed by the existing tax systems on the private sector or/and increased revenue mobilization to correct macro economic imbalances in a non-distorting equitable, and sustainable manner' [Worlds Bank (1991, PP.54-55)]. Also stated in the paper is that ad hoc increases in tax revenue to gain macro economic balance through administratively convenient measures are only short run solutions to the problem of revenue adequacy. The basic structure of the tax system, according to the paper, needs to be adjusted provided that the revenue yield has to be increased on a sustained basis to keep pace with reasonable expenditure requirements.

With regard to tax effort, an interesting study has been made by Bolnick (1978), *Tax effort in developing countries: What do regression measures really measure?* in J.F.J Toye (ed.). The paper tries to 'demarcate' carefully the methodological problems encountered in using the regression approach to measuring tax effort among least developing countries. According to the paper the major advantages could be stated as follows: first, to

Provide a better basis for evaluating tax effort measures; second, as a by product, it allows to clarify a number of ambiguous concepts that recur in the literature [Bolnick (1978, P. 75)]. The study clearly stated that although the limitations of tax effort have been acknowledged (such as inadequate *a priori* justification for the use of the selected variables in the measurement of taxable capacity, the problem of data), the regression approach to measurement of tax effort has been considered as an improvement over the use of the simple tax revenue to GDP/GNP ratio especially for the purpose of international comparisons of tax effort [Bolnick (1978, P.62)]. In general, the paper examines the conceptual and quantitative meaning of tax effort, a simple aggregative model for analyzing the interaction between supply and demand<sup>4</sup> influences on tax revenue to GDP/GNP ratio, application of the above model to evaluate the regression approach to tax effort comparisons and an additional measurement problem<sup>5</sup> emanating from the choice of functional form [Bolnick (1978, PP. 62-63)].

An empirical study on tax effort has also been made by Tait, Gratz, and Eichengreen. Accordingly 'three equations fitted by Tait, Graitz and Eichengreen' as quoted by Goode give the following results for sixty-three developing countries, 1972-1976' [Goode (1984, P.87)].

$$T/Y = 7.1134 + 0.0024 (Y_p - X_p) + 0.5700 N_Y + 0.2218 X'_Y$$

(4.82)	(0.94)	(9.31)	(4.17)
R2 (bar) = 0.581			

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<sup>4</sup> The explanatory variables chosen may reflect in some sense or other a capacity to pay tax rather than a demand for public expenditure.

<sup>5</sup> The point is that in low income countries during the early stages of development demands for government services can not adequately be meet by government (because the influences of taxable capacity are found to be dominant according to Bahl (1971) on expenditure demand influences). However, as development proceeds the taxable capacity of a country according to Thorn (1967), is increased when economic growth is attained and thus enables the government to obtain a good deal of national product [Bolnick (1978, P.63)].

$$T/Y = 7.3663 + 0.003 (Y_p - X_p) + 0.3025 X_Y$$

(4.41)            (0.94)            (6.19)

$R^2(\text{bar}) = 0.375$

$$T/Y = 9.1859 + 0.3550 N_Y - 0.0240 A_Y + 0.1903 X_Y$$

(4.88)            (5.51)            (-0.61)            (4.30)

$R^2(\text{bar}) = 0.593$

Where  $T/Y$  is the tax ratio, excluding social security taxes, in percent;  $Y_p$  is per capita GDP in US dollars;  $(Y_p - X_p)$  is per capita non export income in US dollars,  $N_Y$  is the share of mining (including petroleum) in GDP;  $X_Y$  is the export ratio;  $X'_Y$  is the export ratio excluding mineral exports; and  $A_Y$  is the share of agriculture in GDP. The figures in parentheses are the ratios of the regression coefficients to their standard errors;  $R^2(\text{bar})$  is the adjusted coefficient of determination. All the regression coefficients are significant at the 99 percent confidence level except for non-export income in the first and second equations and the agricultural share in the third equation.

At this juncture, it is important to note that a low tax effort indeed does not indicate that the country in question should raise taxes right away. Similarly, a high tax effort index does not necessarily indicate that the country should lower taxes. Rather 'the decision should emerge from a careful consideration of expenditure needs, alternative sources of finance, administrative capability, the effects of the particular taxes that would be changed, and the political acceptability of the program<sup>6</sup> [Goode (1984, P.88)].

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<sup>6</sup> The regression equation of taxable capacity was originally formulated by Bahl.

## CHAPTER THREE

### FRAME WORK OF ANALYSIS

#### 3.1 Definitions and concepts

It is essential to provide working definitions of some concepts of taxation.

Most developing countries are plagued by chronic fiscal deficits coupled with inadequate social and economic infrastructure. Increasing tax revenue provides one means of alleviating these problems [see, World Bank (1991)].

A tax, according to Goode (1984), could be defined as a compulsory contribution to government. The tax payer pays the tax without a reference to a particular benefit received<sup>7</sup>.

Governments attempt to use tax systems to achieve many objectives. The main objectives of taxation are revenue generation, income redistribution and to influence or regulate economic activities (i.e to correct for market failures). Richard Goode has pointed out that

the primary purpose of taxation is to divert control of economic resources from the tax payer to the state for its own use or transfer to others. Taxation is necessary because it would be neither feasible nor desirable to finance government solely by charges for services [Goode (1984, 75-76)].

Tax revenue is generated either through direct taxes in which the tax payer is in direct contact (or in contact through correspondence) or indirect taxes in which the tax payer is not

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<sup>7</sup> However tax collection will be simple and efficient if people are willing to pay their taxes, keep accounting records from which they can compute their tax bill and if the tax system is based on voluntary compliance [see Eckstein (1979)].

in direct contact [see Walker (1969); and world Bank (1991)]. Direct taxes include taxes on personal and company incomes, payroll taxes, social security taxes, property and wealth taxes. Whereas indirect taxes include domestic taxes, such as broadly based taxes on turnover, value added tax (VAT), sales tax as well as excise taxes on specific goods; and taxes on international trade, namely import duties and export taxes [see world Development Report 1988, World Bank (1991)].

There are four main principles of tax design: equity, efficiency, administrative feasibility and revenue productivity. The principle of equity implies that taxes may be imposed according to general objective rules that are deemed just and reasonable [see Goode (1984)]. It thus calls for horizontal and vertical equity. The former implies equal taxation of persons with equal abilities to pay. Whilst the latter is concerned with the scope for reducing income inequality by taxing the rich more heavily than the poor.

Since taxation can (by reducing incentives and distorting the allocation of economic resources) damage economic efficiency thereby impairing productive capacity, the principle of efficiency requires that taxation should not impose avoidable real costs on the people. Taxation should promote growth, stability and equity. It ought not unnecessarily interfere with them. Administrative feasibility, on the other hand, implies that taxes that are incompletely and unequally administered may produce less revenue than expected. As a result revenue should be collected with reasonable costs for the government and tax payers thereby easing administration and enforcement. With regard to the principle of revenue productivity, it is important that governments should have a tax system with a high revenue elasticity that could adequately meet the rapidly increasing expenditures. Increase in tax revenue could be achieved by broadening the base of the tax system. The base of the tax system could be broadened in two ways: first by identifying new



bases to tax and, second by expanding the bases of existing tax instruments.

However, some writers argue that there is a theoretical limit to taxation beyond which it is positively harmful to economic incentives and growth. The argument is taxation has costs both direct costs of administration and indirect costs associated with the mis-allocation of resources and with consequences for the distribution of income. The appropriate level of taxation depends on a country's desired role for the state, the efficiency and equity of its tax structure and administration [World Bank (1991, P.1)]. Consequently, for a country embarking on increasing revenue productivity, the limit to taxation is reached when a country is fully using its taxable capacity and the same factors that influence taxable capacity also establish the tax limit [Goode (1984, p.95)].

The taxable capacity of a country is the ability of individuals and businesses to pay taxes [see Trotman-Dickenson (1996)]. And it is measured by the ratio of tax to GDP/GNP as predicted by the regression equation. Tax effort on the other hand measures the degree to which taxable capacity is used. Specifically tax effort is an index obtained by dividing the actual ratio of taxation to GDP/GNP by the predicted ratio [Bird (1978, P.45)].

The limit to taxation seems plausible in one sense, because excessive taxation impairs productive capacity, weakens economic incentives, induces resistance or evasion or imposes insupportable administrative burdens [Goode (1984, P.95)]. The British economist Colin Clark argues that for economies that are democratic the optimal of tax to GDP ratio should not exceed 25 percent. Lord Keynes too accepted the figure of 25 percent as the 'maximum tolerable proportion of taxation' [Trotman-Dickenson (1996, P.244)].

Nonetheless, the fact that tax revenue to GDP ratio has risen in many countries with out creating any adverse economic effect

suggests that limits to taxation changes over time and differs across countries.

### 3.2 Methodology

Empirical and econometric techniques have been used to analyze a model of taxable capacity. Subsequently, possible estimation techniques such as Ordinary least squares (OLS), single or simultaneous equations are explored.

Tax ratios are determined by applying those techniques on such statistical packages, Pc Give 7/8 and/or Microfit. A model of taxable capacity is estimated for the period 1959/60 -1995/96. In addition, separate estimation of tax effort for the periods 1959/60 - 1990/91 and 1991/92 - 1995/96 have been conducted in order to capture the impact of regime shift.

#### 3.2.1 A priori Justification of (a model of) the determinants of taxable capacity

Empirical models of the determinants of a country's taxable capacity have been applied to developing countries with a fair degree of success. 'An approach which has been very popular in recent years is the use of econometric techniques to obtain measures of taxable capacity and tax effort. Basically, these econometric studies are defining taxable capacity on the bases of what one might expect a country with given characteristics to do in the taxation field' [Prest (1985, P.13)].

As we have stated previously the taxable capacity of a country depends on two elements: The ability of people to pay taxes and the ability of the government to collect taxes [Goode (1984)].

As a developing country, the model to be used to capture the taxable capacity of Ethiopia is Bahl's model, latter developed and utilized by chelliah and et al. But in our case some more

explanatory variables are included for they are believed to affect the taxable capacity of the country.

Accordingly, 'the first element in taxable capacity seems to depend primarily on people's per capita income. Whereas the ability of the government to collect taxes depends on many factors; it depends, largely, on administrative effectiveness (which in turn depends on the number, skill and determination or dedication of the revenue staff) and the cooperativeness of tax payers as influenced by social and political attitudes' [Goode (1984, P.84)].

The problem here is that these intangible factors are difficult to quantify. Therefore, statistical studies have concentrated on tax handles. These are objects of taxation or economic sectors that can be reached with relative ease. Accordingly, tax handles include international trade (the degree of openness of the economy), mineral production and transactions of large enterprises. By hypothesis taxable capacity is positively related to the shares of these items in GDP and negatively related to the shares of agricultural production and transactions of small enterprises [Goode (1984, PP. 84-85); Bird (1978, P. 43)]. This is because as foreign trade grows, the tax revenue increases as well. But for agriculture, its relative share to GDP decreases through time when the country develops. That is its relative importance to GDP decreases through time.

Therefore, in measuring the taxable capacity of Ethiopia, per capita non-export and import income should be included as one explanatory variable in explaining the share of tax yield in national income. This is because per capita income has considerable normative significance in considering taxable capacity and in assessing tax effort [Bird (1978, PP.42-43)]. At this point it is important to stipulate the assumption that the amount of taxation is set by governments' judgements of taxable

capacity rather than by the demand for expenditures [see Goode (1984); Bird (1978)]. This assumption is essential to circumvent

the problem that may arise from the possibility of some variables affecting both taxable capacity and the demand for government service (public expenditure) and/or willingness to pay.

In order to capture the economic structure, the share of agriculture in GDP should be considered. In most formulations the share of agriculture has the expected negative relationship to the tax ratio.

From the prevailing objective condition of Ethiopia the share of coffee, hides and skins exports in GDP is to be included in the equation as a potential explanatory variable. Underlying this inclusion is the believe that coffee, hides and skins exports require heavy investment and are confined to few firms. Thus the potential tax revenue is high and its administrative expense to collect tax is relatively small as it is confined to few firms. Similarly, the share of mining in GDP will be considered.

The other explanatory variable to be included is the import - export ratio excluding coffee, hides and skins exports. And finally a dummy variable to capture the regime shift will be included in the specification.

Therefor, the general equation will take the following form:

$$t = f(Y_p, YP, s_{xm}, s_a, s_{ch}, s_n, s_x, D, U)$$

Where,

t = tax ratio

$Y_p$  = per capita non export-import income (in birr)

YP = per capita non export income.

$s_{xm}$  = the share of import and export in GDP excluding coffee, hides and skins exports.

- $s_a$  = the share of agriculture in GDP.  
 $s_{ch}$  = the share of coffee, hides and skins exports in GDP.  
 $s_m$  = the share of mining in GDP.  
 $s_x$  = the export ratio excluding coffee, hides and skins exports.  
 $D$  = dummy variable with values of 1 starting from 1991 and 0 for prior years.  
 $U$  = Stochastic variable.

### 3.3 Data:sources, collection and limitations

The type of data used is time series. Sources of data include government documents, publications, other policy pronouncements and personal observations in field work.

Information on the following variables is obtained:

- total tax revenue
- the share of coffee, hides and skins exports
- total imports and exports
- per capita income
- the share of mining in GDP
- the share of agriculture in GDP

Data on total tax revenue have been obtained from the Ministry of Finance Planning and Research Department. Data on total imports and exports including coffee hides and skins exports are compiled from the Annual External Trade Statistics of the Customs Authority.

Data on per capita income and mining are obtained from the Central Statistical Authority and the National Bank of Ethiopia.

Assessment on the problems of tax collection have been carried out during field work. In addition, personal interviews as regards problems and prospects of tax collection with different Zonal Finance departments in the regions have been conducted.

## CHAPTER FOUR

### TAX REFORM IN ETHIOPIA

#### 4.1 Historical Back ground

Until relatively modern times<sup>8</sup>, the Ethiopian tax system was unsatisfactory: The economy had been largely characterized by subsistence agriculture and there had not been a well developed monetary system. As a result most taxes had been paid and received in a non-monetary basis -in kind and labour dues.

Because of the primitive agricultural nature of the economy, a good deal of taxes had been driven from peasants and the rest was from handicraft workers and merchants. In the mean time, land was subjected to two types of taxes: a fixed annual payment and a tithe (or other percentage) of the actual production.

The sovereign or the king was entitled to all kinds of tax revenues and tributes. However, in certain areas, local governors were allowed to share the revenue in part (or in whole) in return for their loyalties and services to the king [Pankhurst (1968)].

Thus the system of taxation in the nineteenth and early twentieth century used to up keep the monarch and the vast social hierarchy who were directly or indirectly dependent up on taxation [Pankhurst (1967)]. However the unsatisfactory aspect of the Ethiopian tax system continued to exist until early twentieth century.

It was at that time that many Ethiopian scholars began to worry about the traditional system of taxation and more importantly the need for a thorough change in the system of taxation.

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<sup>8</sup> Around the nineteenth and early twentieth century.

The prominent scholar *Gabraheywat Baykadagn* discussed tax reform issues in his contribution to *Berhan yehun*, an essay published in Asmara, in 1910 [Pankhurst (1967, P.41)]. He proposed ten reforms of the tax system. The essence of the reform proposal mainly focused on proposing a universal medium of exchange, the statutory allocation of tax revenue between the king and the government; and setting up different tax rates based on the wealth of each district. As to the reforms Richard Pankhurst writes

'... three of the ten proposals he made in fact referred to improvements in tax structure, his prescriptions being as follows: first, make a systematic distinction between the money of the king and that of the government. Let officials also get salaries. The tax paid by the people should be for the government. Second, let the tax that people pay to the government be fixed according to the produce ... Third, let people pay tax in terms of dollars and not in terms of cereals, honey and meat. Let the work of the government be done by people who get salaries and not by all the country people. let there not be a standard tax through out the country but let the taxes be based on the wealth of each district' [Pankhurst (1967, P.41)].

However, the then existing social system did not allow the reform to be implemented. It was only during the reign of Emperor Haile Sellasie 1st that the first over all endeavour in reforming the tax system took place. Subsequently, the king appointed an American advisor called E.A. Colson.

The reform of the tax system which aimed largely at modernizing the tax system was expressed in article 55 of the first Ethiopian Constitution proclaimed on July 16, 1931. Stated in the article is ' the law says down that the receipts of the government Treasury, of whatever nature they may be, shall only be expended in conformity with the annual budget fixing the sums to be at the disposition of each ministry. The annual budget shall be framed on the basis proposed by the Ministry of Finance during deliberations in the chamber of deputies and in the Senate, whose resolutions shall be submitted for the approval of the emperor'.

The emperor himself thought the tax reforms as the most important changes (that) he ever had in his reign. He reduced for example the tax burden of land holders thereby abrogating the rules compelling land holders to pay additional dues in addition to the annual fixed tax payment.

However, those and other similar reforms took time to become effective. This was because: first, there was shortage of trained officials that resulted in arbitrarily tax collection and inadequate tax administration; and second, the government seemed too much concerned in revenue collection turning aside from the principles of efficiency, equity and simplicity [Pankhurst (1967, P.42)].

Therefore, the tax reforms prior to 1935 had not been implemented fully. During the five year Italian occupation (1936-1941), the Italians tried to issue a decree in a state of chaos where the country lost its sovereignty. In this regard Richard Pankhurst, writes ' the Italians, anxious to gain popular support in the occupied areas, issued a decree signed by Marshal De Bono on october 14, 1935, proclaiming that there would be hence for ward no tribute and that the collection of such payments of tribute as were exacted is annulled [Pankhurst (1967, P.42)].

Mean while the growing need for providing public goods services required additional revenue. One means of increasing revenue through taxation was (thought) to broaden the base of the tax system thereby identifying new bases to tax. As a result the first land tax Proclamation was introduced in 1942. There after lots of taxes and user charges were introduced and many more tax reform packages had been undertaken.

#### 4.1.1 The statutory bases of tax reforms in Ethiopia

The statutory bases for all tax reforms during the period of Haile Sellasie 1st (1941-1974) were: (1) the Constitution of Ethiopia, in particular the first Constitution which was proclaimed on 16th July 1931 and the revised constitution (proclaimed on 4th November 1955), and (2) the powers and duties given to the Ministry of Finance. For example, among the most important articles, article 34 of the revised constitution states the prerogatives of the emperor with regard to laws, proclamations, legal notices etc. " ... the emperor has the right to initiate legislation and to originate other solutions and to proclaim all laws, after the same shall have been passed by the Parliament".

Like wise article 88 of the revised constitution states that "... every proposed of legislation approved by one Chamber of Parliament shall be immediately forwarded through the president thereof to the other Chamber. If it is approved by the other with out amendments within a period of two months, it shall be promptly communicated through the prime Minister to the emperor and shall either be promulgated as law, or returned by the emperor to the Chamber with his observations thereon, or with a new proposal of legislation...". All laws duly approved by both Chamber of Parliament shall be forwarded to the emperor through the Prime Minister, by the presidents of the Chamber of Deputies and of the Senate. In the event that such law shall receive the approval and signature of the emperor, it shall be published by the Minister of the Pen in the *Negarit Gazeta*, with recital of the affixing of the signature and the great seal of the emperor...".

Where as the statutory bases for tax reform in the Derg regime were:

- (a) the definition of powers of the Provisional Military Administration Council and its Chairman (Proclamation No.2/1974) which later became the "Redefinition of powers and responsibilities of the Provisional Military Administration Council and the Council of Ministers (Proclamation No.110/1977).
- (b) the Constitution of the people's Democratic Republic of Ethiopia (Proclamation No.1/1987), and
- (c) the powers and duties given to the Ministry of Finance (Proclamation No.8/1987).

In the Constitution, the most frequently cited article as a statutory bases for tax reform in the Derg regime was article 63 sub-article 1 (a) which states " the National Shengo of the People's Democratic Republic of Ethiopia has the power to decide on any National issue. With out limiting the generality of the foregoing, the National Shengo shall have the powers and duties to enact, amend and supervise the observance of the constitution and proclamations..."

Among the powers and duties of the Ministry of Finance, the following are found (see Proclamation No.8/1987 article 33):

- (1) Prepares the general services budget and the social and economic budget of the country; administers the adopted budget; it effects transfers of budgetary appropriations in accordance with the decisions of the Council of ministers;
- (2) Submits periodically to the Council of Ministers general report on the government's financial operation and situation; prepares and submits supplementary budget when necessary.
- (3) ensures and supervises the proper implementation of financial policies, laws governing income taxes, other taxes, duties, financial administration and fees issued at the central level as well as the proper assessment, collection and recording of government revenues from any source;



- (4) In cooperation with the appropriate government organs, undertake studies and initiate policy concerning the national financial administration and operation, credits and foreign exchange reserves;
- (5) control illegal importation and exportation of goods and organize a force to enforce same.

Like wise, all tax reforms during the Transitional and Federal governments were based on the following statutes:

- (a) the Transitional period Charter of Ethiopia (Negarit Gazeta, No.1, 22nd July, 1991),
- (b) Definition of Powers and Duties of the Prime Minister and the Council of Ministers (Proclamation No.2/1991),
- (c) The Constitution of the Federal Democratic Republic of Ethiopia /FDRE/ (Proclamation No.1/1995), and the powers given to the Ministry of Finance.

#### (4.1.2) Fiscal relations between the Centre and Regional Governments.

Designing an efficient fiscal system of multi level governments is undoubtedly important especially when there is a need to reform (or review) the prevailing fiscal system.

The Transitional government<sup>9</sup> of Ethiopia, to affirm the right of nations, nationalities and peoples to self determination, issued a law in 1992 (Proclamation No.7/1992) defining regions as well as establishing self governments and Councils so that the functions of regional governments with regard to tax sharing, grant financing and other similar inter-government fiscal relations could be efficiently designed and implemented.

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<sup>9</sup> It was established in 1991 by National Liberation movements and other political organizations in the Peace and Democratic Conference held in Addis Ababa from July 1 to July 5, 1991.

And also to ensure the possible differentiation of the provision of public goods and services in different regions in accordance with the tests of the population of the regions.

Regional governments in Ethiopia, according to article 9 of Proclamation No.7/1992, have "...legislative, executive and judicial powers in respect of all matters within their geographical areas except such matters as economic policy, printing of currency, establishing and administering major development establishments, building and administering major communications net works, defence, foreign affairs, conferring of citizenship, declaration of a state of emergency, deployment of army ..."

Thus in line with the guiding principle of accountability,<sup>10</sup> the revenue sources over which regional governments can decide (and the burden of which can not be exported to the near by regional tax payers) are taxes and grants given by the central government, internal borrowing and other sources of income. Equalization grants are allocated to regional governments that can not undertake by themselves basic social services and economic development programs due to relative underdevelopment. Generally, grants are given in order to correct for vertical imbalances resulting from the assignment of expenditures and other revenue sources; to induce the provision of merit goods; to overcome lack of sufficient local capacities; to correct for unequal economic conditions in different regions and to ensure a minimum level of redistribution in the system of taxation as a whole [Norregaard (1995, P.252)]. And the central government has the power to audit and inspect the proper utilization of subsidies it grants to the regions.

The sharing of revenue between Central and Regional governments was enacted with the following objectives:

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<sup>10</sup> That is regional governments should provide services, the benefits of which accrue to the local population which should also bear the major part of the economic burden associated with the provision of the services [Norregaard (1995, P.249)].

- (1) to enable Central government and the Regional governments efficiently carry out their respective duties and responsibilities;
- (2) to assist regional governments develop their regions on their own initiatives;
- (3) to narrow the existing gap in development and economic growth between regions; and
- (4) to encourage activities that have common interest to regions [see Proclamation No.33/1992].

Thus according to Article 97 of the FDRE Constitution, regions are entitled to the following revenues:

- (1) Personal income tax collected from employees of the regions and of private enterprises.
- (2) Land fees for usufructuary rights.
- (3) Agricultural income tax collected from private farmers and farmers incorporated in cooperative associations.
- (4) Profit and sales taxes collected from individual traders carrying out a business within their territory.
- (5) Income tax collected from transport services rendered on waters within their territory.
- (6) Income tax derived from private houses and other properties within the regions. And rent on houses and other properties the regions own.
- (7) Profit, sales, excise and personal income taxes on income of enterprises owned by the regional governments.
- (8) Income taxes derived from mining operations and royalties on such operations.
- (9) Charges and fees on licenses issued and services rendered by regional governments.
- (10) Royalty collected from use of forest resources.

On the other hand, the revenues of the Centre are the following (see Article 96 of the FDRE Constitution):

- (1) Custom duties, taxes and other charges on imports and exports.
- (2) Personal income tax collected from employees of the central government and international organizations.
- (3) profit, sales, excise and personal income tax collected from enterprises owned by the Central government.
- (4) Taxes collected from National Lotteries and other games of chance.
- (5) Taxes collected on income from air, rail and marine transport services.
- (6) Taxes collected from rent of houses and properties owned by the central government.
- (7) Charges and fees on licenses and services issued and rendered by the central government.
- (8) Taxes collected from Monopolies, and
- (9) Central government stamp duties.

Where as concurrent revenues of the Centre and Regional governments include profit tax, personal income tax and sales tax collected from enterprises jointly owned by the Central government and Regional governments; profit tax collected from companies and dividends due to share holders; income tax derived from large scale mining and all petroleum and gas operations, and royalties on such operations.

The above revenue sharing arrangement was based on considerations with regard to ownership of source of revenue, the national or regional character of the source of revenue, convenience of levying and collection of the tax or duty, population, distribution of wealth and standard of development of each region.

As to the revenue collection, central government revenues and revenues jointly owned by the central government and regional governments are normally collected by the Central Government revenue collection organs.

To sum up, regional governments and the Centre do not levy and collect taxes on each other's property unless the enterprise is profit making. And they make sure that their taxes do not adversely affect the relationship between the two.

## 4.2 Tax reforms during the reign of Emperor Haile Sellasie 1st (1941-1974)

### 4.2.1 Tax reforms during the 1940s

The 1940s period saw the beginning of a long term approach to development. During this period Ethiopia undertook the first steps towards the introduction of economic planning in the form of sectoral programs. And it was in 1945 that the Ten-year Industrial Development Program was elaborated as the first sectoral program [see shiferaw (1995)].

This enabled the country to work out short term plane for the early 1950s in order to rehabilitate and extend the road network which had been abandoned during the five-year Italian occupation. Similar measures were also taken in the field of education.

The decade in short was characterized by absence of economic crisis. It was a period where modernization of the economy was rooted.

As a result perhaps as a means of additional revenue source to implement those programs, lots of taxes were introduced during the decade.

The first land tax reform, after its introduction in 1942, was undertaken in 1944 [land tax proclamation No.70/1944]. The reform was undertaken in order to ensure administrative feasibility particularly to ensure greater ease of tax payment and decrease the cost of collecting taxes. Because of the subsistence economy and absence of a well developed monetary

system, most of the taxes were paid in a non-monetary bases. Consequently farmers were obliged to pay a tithe of their produce. However, many problems occurred in estimating the tithe on the land.

It was the 1944 land tax reform that repealed the tithe; and in lieu of the tithe an equivalent estimate was made to be payable on monetary basis.

Similarly, land tax reforms of the 1947 and 1949 (proclamation No.93/1947 and No.106/1949) were aimed at improving compliance and obtaining administrative feasibility of tax collection. For example the former was intended to resolve the then existing conflict between the tax payers and tax administrators over the interpretation of article 4 of the 1944 land tax proclamation. While the latter was designed to extend the period of appeal for those who claimed exemption from the payment of land tax.

Also undertaken in the 1940s was tax reform in the area of income tax. To make the tax structure more transparent, to ease tax administration and enforcement, to increase revenue and promote equity, the first personal and business tax (Proclamation No.60 of 1944) was repealed and replaced by the 1949 personal and business tax (Proclamation No.107/1949). This was undertaken after the establishment of state Bank of Ethiopia, on 26 August 1942, and the issuance of its new currency "The birr" in 1945.

The major objectives of the 1949 reform were: (1) to facilitate and simplify tax collection; (2) to promote equitable tax assessment; and (3) to create conducive atmosphere so that the tax system encourages investment in the development of new industries.

Accordingly, the reform provided for base broadening and rate increasing at the higher income brackets. For example under schedule 'A' of the former income tax (1944), a person in the

twenty-fourth bracket used to pay from 3.5 to 4.375 percent of his gross income. Where as under the new tax act, the person had to pay 13 to 15 percent of his gross income. In addition the new income tax act broadened the income tax base thereby including the incomes of the regular armed forces which had been excluded, from taxation, by the former tax act. Under schedule 'B' of the former proclamation there were only 3 special classes where every tax payer was categorized but the 1949 tax reform increased the number of special classes to seven.

To simplify the rationalization of the income tax structure and administration, the reform also decreased the rate of sure tax in schedule 'C'. As a result, the sure tax payable whenever the income of a business exceeds birr 100,000 decreased from 50 to 10 percent. Thus, the major motives behind the 1940s income tax reforms were revenue generation, equity, simplicity and promotion of domestic investment.

On the other hand, the 1949 tax reform also contributed to export promotion by giving incentives to exporters (Legal Notice No. 131/1949). Accordingly, goods and merchandise exported from Ethiopia were levied an ad valorem tax of 1 percent; where as imported goods and merchandise were to pay a 4 percent ad valorem tax on the customs valuation.

The 1940s reform also gave birth to the introduction of user charges in the area of education and road. It broadened the tax base to generate additional revenue to finance education. Education tax was levied on lands<sup>11</sup>, including *Maderia*, *Samon* and *Rist gult* according to their fertility. As a result,

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<sup>11</sup> *Gult* (fief) is a type of land tenure which was more or less completely exempted from the payment of tribute and owned by local rulers, members of the royal family, nobles and others for their own use. Such a land enabled the holder to receive the dues which would otherwise have been allocated to the state. *Rist* is permanent and inheritable tenure of land. *Maderia* is another type of land tenure which was given by the king to an individual (but could be withdrawn at will and given to a third person). It was held by soldiers who were not paid in cash or kind for their services; and holders of such lands used to pay only tithe. Whilst *Samon* lands were those which were owned by the church workers such as Abuna, priests, deacons and some scholars [see Pankhurst, R., 1967, 1968].

education tax was made to be collected hand in hand with land taxes. For example in all districts of the provinces of Shoa, Harar, Arussi and Wello, the rate of educational tax payable on each *Gasha* (equivalent to 40 hectares) of measured land was birr 15 for fertile land, birr 12 for semi fertile and birr 4.50 for poor land (see the following table).

**Table 4.1: Education tax for Shoa, Harar, Arusi and Wello provinces (1947)**

Fertile land	Semi fertile land	Poor land
Birr 15 per gasha	Birr 12 per gasha	Birr 4.50 per gasha

source: Negarit Gazeta, NO. /1947.

Similarly, road tax was proclaimed in 1948 in order to construct new roads and maintain the old ones. All vehicles except government and public had to pay user charges from birr 0.25 to birr 7, depending on the nature of the vehicle.

The other major tax reform of the 1940s was in the area of excise tax. In 1942, Tobacco Regie<sup>12</sup> was proclaimed (Proclamation No.30/1942). The reform apparently provided for tax base-broadening. Further tax base broadening took place when the Ministry of Finance enacted rules in 1943 prescribing additional amount of tax to be levied on imported cigarettes, cigars, tobacco, matches, cigarette papers and lighters.

Further imposition of excise tax on alcohol in 1943 was another forward step in identifying new tax bases in the tax system. Thus, it has resulted in base broadening.

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<sup>12</sup> Name given to the then established state monopoly.

The introduction of stamp duty in 1943 was also a constituent of the 1940s tax reform (see Proclamation No.41/1943). It provided for base broadening to generate more revenue.

Similarly the imposition of customs and export duties of the 1943 on imported and exported goods (see Proclamation No.39/1943) provided for tax base broadening. More over, in 1944 and 1945, further base broadening and rate increasing took place respectively in the customs duties. Accordingly, the tax base was further broadened by taxing two new items, rubber and wars. An ad valorem tax of 10 percent per kilo of rubber and wars (or bastard saffron) were levied on export duty. In addition, the ad valorem tax on some of the items in class I (i.e animals, agricultural, marine and pastoral products and food stuffs), class II (Ales, wines, spirits and beverages), class III (tobacco and manufactures thereof) and class IV (textiles, apparel, yarns and fibres) were increased.

To sum up, the motive behind tax reform in the 1940s was mainly revenue generation and administrative feasibility, in particular in the taxation of land. The consideration of equity and promotion of domestic investment was also another important measure taken during the decade.

#### **4.2.2 Tax reform during the 1950s**

In the 1950s like the 1940s the same economic atmosphere have been maintained. A study rise in GDP partly as a result of the federation of Eritrea and Ethiopia which led to an expansion in the size of the economy but also because of an increase in investment has been observed. The First Five Year Plan<sup>13</sup>(1958-62) was also elaborated during this period with objectives of

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<sup>13</sup> The plan was originally prepared to cover the period 1957-61. However, it became effective in 1958; it was extended further for six months up to 1962.

promoting the development of social and fiscal structure accelerating the modernization of agriculture and raising industrial production [Shiferaw (1995)].

The federation of Eritrea and Ethiopia in september 1952, in accordance with a decision of the United Nations, was an important event in the Ethiopian economy during the decade. The economy was expanded and modernized.

Consequently, because of the federation, the Ethiopian government proclaimed the Federal Customs and Export Duties (Proclamation No. 143/1954), Federal Salt Tax, Federal Excise Tax and others in order to meet federal expenses.

Tax reform in the 1950s aimed mainly at revenue generation in order to meet the ever rising government expenditures and carrying into effect of the Five Year Plan. As a result, to achieve this major objective, tax reform focused on base broadening and rate increasing.

The 1954 Federal Tax (Proclamation No.143/1954) for example increased the rates of customs and export duties. All goods imported in to Ethiopia were levied a 10 percent tax on their value while goods exported from Ethiopia had to pay 2 percent ad valorem tax as estimated by the Customs Administration. However, the federal tax was reintroduced in 1956. The Federal Transaction Tax of 1956 (Decree No.17/1956) resulted in broadening the tax base and increasing the tax rate. The federal tax rate on imported goods increased from 10 to 12 percent.

In addition locally manufactured goods were levied and charged 5 percent sales tax by manufacturers. The Personal and Business Tax reform of 1954 (Proclamation No.140/1954) has also provided basis for administrative feasibility of the tax system.

It offered a three year tax holiday for rental houses starting from the date of their completion.

Similarly, the Income Tax Decree of 1956 (Decree No.19/1956) has raised the tax rates taking into consideration the equity principle. For example an individual earning a monthly salary of birr 45 had to pay additional tax birr two annually. Where as a person with a monthly salary of birr 1550 had to pay additional tax about birr 1519.20 annually. In addition, the number of income brackets under schedule 'A' were increased from 34 to 36. And the tax assessment was made on a monthly basis. Thus every tax payer had to pay his/her taxes monthly. Similarly the monthly tax exempt income increased from birr 25 to birr 30 which provided additional tax exemption for low income groups (see Table 4.2).

**Table 4.2: The Income tax Decree No.19/1956**

Taxable income (birr)	Tax per month (birr)	Taxable income (birr)	Tax per month (birr)
1. 0 - 30	Nil	20. 650 - 700	40.00
2. 30 - 40	0. 50	21. 700 - 750	45.00
3. 40 - 50	1. 00	22. 750 - 800	50.00
4. 50 - 60	1. 25	23. 800 - 850	57.50
5. 60 - 80	1. 75	24. 850 - 900	65.00
6. 80 - 100	2. 25	25. 900 - 950	72.00
7. 100 - 125	3. 00	26. 950 - 1000	80.00
8. 125 - 150	4. 00	27. 1000 -1050	90.00
9. 150 - 175	5. 00	28. 1050 -1100	100.00
10. 175 - 200	6. 00	29. 1100 -1150	110.00
11. 200 - 250	9. 00	30. 1150 -1200	120.00
12. 250 - 300	12 .00	31. 1200 -1250	135.00
13. 300 - 350	15. 00	32. 1250 -1300	150.00
14. 350 - 400	18. 00	33. 1300 -1350	165.00
15. 400 - 450	21. 00	34. 1350 -1400	180.00
16. 450 - 500	24. 00	35. 1400 -1450	195.00
17. 500 - 550	27. 00	36. 1450 -1500	210.00
18. 550 - 600	31. 00	37. >1500	15 percent
19. 600 - 650	35. 00		

source: Negarit Gazeta No.1. 1956.

One of the major land tax reforms in the 1950s came in to effect by Land Tax Proclamation No.117/1951 which aimed at improving the administration of tax and promoting of equity. Because of the difficulties encountered in the people of Shoa (Amhara), as

their *rist* lands were classified in few categories under the Land Tax Proclamation No. 70/1944, this land tax reform was undertaken in order to levy land taxes according to the fertility and superficial<sup>14</sup> area of the land. As a result, *rist* lands in the province of the then Shoa Amhara were re-assessed and classified in to eight separate categories, ranging from class one up to class eight. Each class of *rist* land had to pay the specified land tax plus tithe. For example, first class *rist* land had to pay total tax payment of birr 20 (i.e birr 8 of land tax plus birr 12 of tithe).

On the other hand, *rist* land classified under class eight (the poorest land) was imposed land tax of birr 1.50 - the amount of the tithe only. Thus the reform provided for base broadening, simplicity and equity.

The reform was re-considered again (see Legal Notice No.154/1951) in 1951 to further simplify tax administration. For example in the assessment of the tax of Shoa Amhara *rist*, the assessment had been made by the *Malkegna*, or the chief of the place, the *Chika Shum* and by other three elders selected by the residents. The Ministry of finance had to assign a clerk for each *Wereda* for writing out the assessment and to submit appeals in case of unjust assessment.

In the case of classification of un measured *Gabbar* land, tax assessment had been made by members of committee representing the Ministry of interior sent from Addis Ababa (chairman), Ministry of Finance sent from Addis Ababa ( member), the governor of the *woreda*, *Melkegna*, *Chika shum* and two elders selected by the local residents within the *melkegna*.

Mean while continuous land tax reforms were undertaken (for example Legal Notice No.154/1951 was amended by Legal Notice

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<sup>14</sup> It means the area of unmeasured land was assessed by the assessors only by viewing the land.

No.172/1952) in order to simplify further the tax administration with regard to unmeasured Gabar lands.

The 1950s also saw the introduction of health tax. Health Tax Decree No.36 of 1959 was enacted in order to improve the facilities or health services, and to deal with such diseases as leprosy, tuberculosis, malaria and other similar contagious diseases.

The objective of this tax was to generate additional revenue so that the then Ministry of Public Health could be able to extend satisfactorily health services to the people.

The establishment of health tax was thought to support financially the five year plan which had also focused among other objectives to improve and develop health services. Like the education tax, the health tax was also made to be collected together with land tax and was levied on the same laws and regulations as the land tax [see Negarit Gazeta, No.14, 1959].

The introduction of cattle tax in 1954 (Proclamation No.142/1954) was also another constituent of the 1950s tax reform. The objective was to promote equity. Stated in the proclamation is ' to ensure equality of taxation as between our subjects who obtain their livelihood from agricultural pursuits and pastoral activities and recognizing the fact that while farmers pay tithe and land tax it is but appropriate that cattle tax ' [Negarit Gazeta, No.1 30th september, 1954, P.3].

As a result, any person engaged in cattle breeding activity had to pay an annual cattle tax on each head of cattle at the following rates (Table 2):

Table 4.3: Cattle tax (1954)

Type of cattle	Tax rate
Pig	birr 1.00
Camel	birr 0.50
Horned cattle	birr 0.25
Horse	birr 0.25
Mule	birr 0.25
Donkey	birr 0.10
Goat	birr 0.05
Sheep	birr 0.05

source: Negarit Gazeta, No.1, 30th september, 1954.

The cattle tax act provided for base broadening to generate additional revenue in addition to promoting equity in the tax system.

Further broadening of the tax base took place in 1955 when federal salt tax was proclaimed (see Federal Salt Tax Proclamation No.146/1955). All salt entering Ethiopia had to pay taxes at specified rates. For example, salt with no more than 10 percent of foreign elements were levied birr 5 per 100 kgs. Similarly, the federal excise tax of 1956 (Decree No.16/1956) contributed for base broadening. Goods imported into or manufactured within Ethiopia were charged and levied federal excise tax at the rates prescribed in the schedule. For instance, the excise tax on sugar (all kinds) was birr 3.00 per 100kgs.

The stamp duty decree (No.26/1957) of 1950s also provided for base broadening thereby including new instruments<sup>15</sup> to be charged with stamp duty. The decree also increased rates of duty on some instruments which were charged with stamp duty. For example the payment of stamp duty of tickets of admission to places of public entertainment increased from 10 percent to 15 percent of the cost of admission.

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<sup>15</sup> Here instrument is defined as a document in writing by which any right or liability is to be created transferred, extended, extinguished or recorded (Decree No.26/1957).

The other major tax reform of this decade was in the area of customs and export duties. The customs and export duties act of 1943 (Proclamation No.39/1943) which was latter replaced by the Customs Revised Import and Export Tariff Regulation of 1947 was re-introduced in 1951 by the Customs Revised Import and Export Tariff Regulations of 1951. Accordingly, the ad valorem tax rates of some of the commodities in all classes were increased. For example the ad valorem tax on bacon and hams rose from 25 to 50 percent; fresh meat from 20 to 60 percent; ale and beer from 40 to 50 percent; cigars rose from birr 6 per kg to birr to birr 8 per kg; motor passenger cars rose from birr 0.40 per kg to birr 0.50 per kg and so on.

Further broadening of the tax base took place when Legal Notice No.159/1952 was enacted to include bovine cattle to be taxed on export.

Legal Notice Nos 163/1952 and 178/1953 were also important in simplifying the tax administration and levying export duties respectively. For example Legal Notice No.178/1953 declared that all Harar coffee exported had to pay birr 20 per 100 kgs and birr 15 of surtax per 100 kgs. However, the surtax was latter replaced by 40 percent by the Coffee Additional Surtax Regulation of 1954. According to the regulation, additional surtax was charged, levied and collected on all coffee exported from Ethiopia based on the price quotations on the New York coffee exchange.

On the other hand further increase of tariffs on such commodities as textiles, fibres, yarns and manufactures thereof in 1956 (see Legal Notice No.199/1956) aimed partly to promote domestic textile industries, which were found at their infancy, and protect them from foreign competition and partly to generate additional revenue.

To put it in a nut shell, tax reform in the 1950s period aimed at broadening the tax base and increasing the tax rates to

generate more revenue together with improving the administrative feasibility of the tax system.

#### **4.2.3 Tax reform in the 1960s**

The accelerating economic expansion that began in the late 1950s also continued to prevail in the 1960s. As a result, the 1960s registered a remarkable performance in the Ethiopian economy. The Gross Domestic Product grew at an average annual rate of 4.4 percent [Mulatu (1990, P.199)]. In particular during the first half of the decade, the growth rate of GDP was 5 percent annually. In addition to this, the economy managed to show structural changes. Export of goods and non factor services grew at an average rate of 12 percent annually. Savings and investment also recorded annual average rates of growth of 9.4 and 9.2 percent respectively [Shiferaw (1995, PP.17-19)].

In 1960s, unlike the preceding two decades, tax reform concentrated only on income tax, land tax, excise tax, transaction tax and customs and export duties. It was unlike the 1940s and 1950s; there were no new tax packages to be introduced.

One of the major tax reforms in the decade was in the area of income tax. The income tax act of 1961 (Proclamation No. 173/1961) highly increased the tax rates to generate additional revenue. For example, in schedule 'A' (schedule consisting of income from employment including salaries, wages allowances, pensions, directors' fees and other personal emoluments) an individual earning a monthly salary of birr 5000 had to pay a monthly income tax of birr 1000 instead of birr 750. Thus, under the new act, he had to pay birr 250 more (about 33% increase in the tax rate) than he could have paid five years ago. Like wise a person with a monthly salary of birr 100 had to pay additional income tax of birr 1.50 (about 67% increase in the tax rate) than he could have paid five years ago.

Thus the reform did not consider equity. Low income groups were severely taxed than high income groups.

Similarly, the new act increased the tax rates of income in schedule 'B' ( income from rent of lands and buildings used for other than agricultural purposes) to generate additional revenue. Besides a surtax of 10 percent was charged on any taxable income under schedule B in excess of birr 30,000. And the number of income brackets are increased from 15 to 16.

Like wise, the tax rates and the number of income brackets in schedule C (income from business, from professional and vocational occupations, from the exploitation of woods and forests for lumbering purposes, from interest and all other sources) increased. Here again low income groups were taxed more severely than high income groups. For example, the annual tax rate on an annual income of birr 1200 increased from birr 30 to birr 45. On the other hand, the increment of the tax rate on annual income birr 15,000 was from birr 2160 to birr 2250. Thus, very little attention was given to equity consideration. Schedule 'C' was also subjected to a surtax of 10 percent on that part of total income in excess of birr 30,000 and another additional surtax of 10 percent on that part of taxable income in excess of birr 150,000.

Above all, an important aspect of the 1961 income tax proclamation was the promotion of investment and encouragement of local and foreign investors thereby declaring income tax exemption for up to five years provided that the amount of investment was more than birr 200,000. This laid basis for the investment proclamation of 1966 which 'superseded all previous investment laws and was hailed internationally as being the most liberal with the most attractive investment incentives' [Shiferaw (1995)].

Thus the 1961 income tax act contributed to revenue generation through rate increasing and also encouraged investment. Perhaps

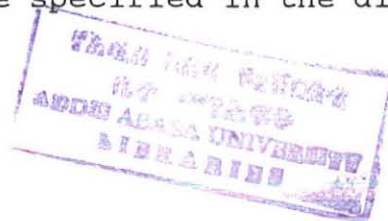
partly as a result of measures taken in 1961, 1963 (investment decree) and the investment proclamation of 1966, foreign investment increased from birr 86 million in 1955-1960 to 128 million between 1960-1965 [Shiferaw (1995, P.2)]. However objectives of equity and simplicity received little attention by the reform package.

Income tax was re-introduced in 1967 (Income tax Proclamation No.255/1967). Here again the new act further broadened the income tax base and increased the tax rates. In addition, the number of income brackets in schedule A increased from 35 to 39; and the tax exempt income decreased from birr 30 to birr 25. As a result, individuals earning a monthly salary of birr 25 up to birr 30 had to pay a monthly income tax of birr 0.75.

In schedule A the tax rates began to rise only after the 30th income bracket. Thus, it was unlike the previous income tax act; now higher income groups had to pay more taxes than lower income groups. Therefore, the tax base was broadened at higher income brackets in order to tax higher income groups.

Similarly, in schedule B the tax rates increased. The number of income brackets also increased from 16 to 34. The income of bodies (any incorporated body with limited liability) was subjected to 20 percent tax rate on that part of taxable income. In schedule C every income was subjected to taxation; there was not exemption. Under this schedule the tax rates began to rise only after the 31st income bracket.

Above all, new schedule, schedule D, had been introduced to include income from agricultural activities such as the cultivation and/or development of land (or harvesting of any crop from land) and raising and breeding of live stock on the land. The tax which was payable under schedule D was of two types: (1) the tax on bodies which was charged levied and collected at a rate of 20 percent on that part of taxable income, and (2) on persons at a rate specified in the different



The transaction tax of 1963 (Proclamation No.205) also resulted in base broadening thereby including a turnover tax (1%) and another tax on construction work. The transaction act repealed both the Federal Transaction Tax Decree No.17/1956, as amended by Decree No.35/1959, and the Local Products Excise Tax Decree No.22/1957 as amended by Decree No.25/1957.

Transaction tax was charged, levied, collected and paid on all imported, exported and locally manufactured goods. A turnover tax on gross revenues from sales received or due to traders for sale of goods was charged levied and collected at the rate of 1 percent. However, the turnover tax was increased to 2% in 1967 (see proclamation No.254/1967).

In addition Construction Work Tax was charged and payable at the rate of 2 percent on all elements of the cost of construction work. The transaction tax was re-introduced in 1964 (Legal Notice No.282/1964) with a view to improving compliance and tax administration by exempting transaction taxes on goods such as motor bicycles and motor tricycles together with their appropriate initial equipment, tanning materials, bands and belting of all kinds of driving machinery. Also stated in the amendment was the excise taxes reduction on locally manufactured goods. However, the reduction was to be considered only if excise taxes had been paid on alcohol, sugar, cotton goods or yarn, salt and regie tax on tobacco leaf, tobacco products, matches, cigarette paper and pocket lighters.

Tax reform in the area of customs and export duty in 1961 (Legal Notice No.241/1961) apparently increased the import and export tariff rates on some commodities. For example, the tariff rate for imported butter increased from 50 to 60% ad valorem. Meat extracts and soups manufactured from meat rose from 20 to 50 percent; meat (canned or in glass jars or bottle) rose from 20 to 50%; bags made of flax, hemp or jute rose from birr 30 per 100 kgs to birr 50 per 100 kgs; hessian cloth rose from birr 20 per 100 kgs to birr 35 per 100 kgs. In addition new items such

as metals were charged and taxed. Additional ad valorem tax of 60% on tiles and mosaics, glazed or unglazed, white coloured or decorated, for building purposes was charged levied and collected. The ad valorem tax on periodicals, rose from 10 to 60 percent. However, since the country was promoting export, packing materials intended for use exclusively as containers and packing for meat products of Ethiopian origin designed for export abroad were tax exempt.

Further increase in the tariff rates of the customs duties (on import and export) was observed in 1964 (by Legal Notice No.283/1964), and 1965 (Legal Notice No.309/1965). The ad valorem tax on clothing and sewn articles including household linen increased from 35 to 55 percent; cotton blankets mixed with wool rose from birr 1.50 per kg to 2.50 per kg; the tax on iron and steel, rods and bars rose from birr 8 per 100 kgs to birr 12 per 100 kgs (see Legal Notice No.283).

Legal Notice No.299 of 1964 increased the tariff rates of the customs import and export duties. As a result, the ad valorem tax rates on confectionery and candied fruits and vegetables rose from 30 to 40 percent; the ad valorem tax rates on sweets rose from 30 to 40 percent; clothing and sewn articles of linen from 55 to 60 percent; hessian cloth from birr 35 to birr 50 per kg and so on. Additional ad valorem tax rates were also levied on such items as tape recorders, wire recorders, dictaphones and other sound recording and televisions.

Mean while the government, to promote investment, exempted import tariff rates on such commodities as structural and building materials, machinery and furniture if imported by new hotels where a capital of not less than birr 800,000 has been invested; further more machinery especially designed for boring or drilling for the purpose of exploration and prospecting for minerals or for under ground water, raw materials imported by local tanneries and textile industries as finishing or processing materials were exempted from import duties. Above

all, further increase in tariff rates of many commodities was observed in 1961 (Legal Notice No.354/1969).

In short the 1960s tax reform focused on many objectives: (1) to generate revenue both through base broadening and rate increasing, (2) to provide fiscal incentives so as to promote investment, and (3) to improve compliance and tax administration.

#### **Tax reform in the first half of the 1970s**

In the first half of the 1970s, things began to go awry. Particularly between 1970 and 1974, the economic atmosphere changed. The country suffered severely economic, social and political hardships which resulted in an over all crisis in the country. The first oil price crisis, the 1974 Ethiopian Revolution, which erupted in late January 1974, and the Wello famine (1973-74) which claimed more than 200,000 lives all had a great impact on the economy. By 1974 the share of agriculture in GDP dropped to about 54 percent. The growth of this sector began to decline averaging about 1.4% (between 1970 and 1974) as compared to the 2.2% annual population growth rate of the period. The inflow of private foreign capital began to decline and ceased completely in 1973, while domestic investment dropped to about 11% during 1970 and 1974. Similarly, the fiscal deficit rose considerably averaging about 4% of GDP [Shiferaw (1995, PP.21-52)].

Tax reform in the first half of the 1970s had aimed mainly at revenue generation in order to meet the rising government expenditure. The political upheaval of the time did not allow the old regime to undertake many tax reform packages as much as it wanted to adjust the fiscal problems. As a result there were only two tax reforms: Transaction tax and customs and export duty. These reforms aimed mainly at revenue generation. As a result, the transaction taxes act (Proclamation No. 307 of 1972) increased tax rates on imported and exported goods from 12 to 15

percent. Similarly, the customs tariff regulation (No.388/1970) increased ad valorem tax rates on some imported commodities and broadened the base of the tax by including some taxable commodities. However, to provide fiscal incentives for infant domestic industries it also made exemptions for some commodities which were imported for further processing to make industrial products. Further increase in the tariff rates was observed by the customs tariff regulation of 1972. For example, the ad valorem tax rate on copy paper rose from 10 to 60 percent, and writing paper from 10 to 60 percent.

To reiterate, tax reform during emperor Haile Sellasie mainly focused on revenue generation. Equity consideration was not given due emphases.

### 4.3 Tax reform during the Derg regime (1975-1991)

#### 4.3.1 Tax reform in the second half of the 1970s.

The problems of the first half of the 1970s were escalated during the second half of the 1970s. Following the over throw of the Haile sellasie regime, the new government, the Derge<sup>16</sup>, confronted a lot of hardships: internal political upheaval, armed conflict and radical institutional reform, labour strikes and urban unrest to military mutinies [see, Kinfe (1994)], the Ethio\_Somali War (1977-78) and others.

The government thus had to raise more revenue in order to support war efforts<sup>17</sup>, the growing public sector and other government current expenditures. Accordingly, in the Derge

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<sup>16</sup> Name given to the Provisional Military Administrative Council.

<sup>17</sup> Over fifty percent of government current expenditure was used to meet the security needs of the country [see, Mulatu (1990, P. 212)].

regime, tax reform focused on base broadening and rate increasing of the tax system to generate additional revenue. In 1976, the base of income tax was further broadened by introducing a new tax called Rural Land Use Fee and Agricultural Activities Income Tax (see Proclamation No.77/1976). Under the new act, every farmer had to pay rural land use fee annually. A farmer belonging to an agricultural commune had to pay birr 3 per hectare; while a non-member farmer used to pay birr 4 per hectare. where as every government agricultural organization had to pay birr 2 per hectare on the total of its holdings.

Income tax was payable annually on any income derived from agricultural activities<sup>18</sup>. With regard to the assessment of income from agricultural activities, the principle was to estimate the price of the crop before harvest. However the price declared by the association or the farmer himself used to be the basis of income determination. Incase of doubtful declaration, the tax collector used to assess the tax by backing with document. As a result, tax rates were payable in accordance with the following table:

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<sup>18</sup> Agricultural activities according to article 9 of the proclamation meant the cultivation or development of rural land by any means and with the aid of any implement, regardless of whether or not the farmer processes it further by industrial means, the harvesting of crops as well as the breeding of live stock on such land, but excluding the exploitation of woods and forests for wood limbering purposes.

**Table 4.4: Tax rate on annual income from agricultural activities (1976)**

Annual income	Tax rate
Up to birr 600	birr 3
600 - 900	birr 4.50
900 - 1200	birr 6.00

source: Negarit Gazeta No.19,4th January 1976.

If the annual income happened to be more than birr 1200, government agricultural farmers or body corporate were to pay 50% of the taxable income. While individual farmers (including commune members) used to pay at the following rates:

**Table 4.5: Rate of tax on annual income from Agricultural activities (1976)**

Annual income	Tax rate payable on every additional income.
1. Over birr 1200 - 3000	10%
2. >> birr 3000 - 6000	15%
3. >> birr 6000 - 9000	20%
4. >> birr 9000 - 12000	25%
5. >> birr 12000 -15000	30%
6. >> birr 15000 -18000	35%
7. >> birr 18000 -21000	40%
8. >> birr 21000 -27000	50%
9. >> birr 27000 -33000	60%
10.>> birr 33000	70%



Source: Negarit Gazeta No.19, 4th January 1976.

Further more, to promote the collection of taxes, every tax collector was entitled 2% of the total tax collected as service remuneration. This act was re-introduced in 1978 (by Proclamation No.152/1978).

The new act again increased the tax rates and broadened the tax base. As a result any farmer belonging to agricultural producers' cooperative used to pay annual rural land use fee

birr 5 per hectare instead of birr 3. Where as a non- member farmer had to pay birr 10 instead of birr 4. With regard to income tax, farmers whose annual income from agricultural activities did not exceed birr 600 were paying birr 10 per annum. The new act also increased the number of income brackets from 10 to 14.

In the same year, by income tax amendment (Proclamation No.155/1978), income tax was further reformed. Accordingly, in schedule A, the tax exempt income from employment increased from birr 30 to 50. And the taxable income brackets decreased from 35 to 16. However, the tax rates were highly increased. The marginal tax rates increased from a range of 1.875-21% in 1961 to 10-85% in 1978. Under the new act, an individual earning a monthly salary of birr 250 had to pay a monthly additional income tax birr 6.50 than he used to pay in 1961; and an individual with a monthly income of over birr 3750 used to pay a marginal tax rate of 85%.

**Table 4.6: Tax on Income from Employment (Proclamation No.155/1978)**

Taxable income per month(in birr)	Tax rate on every additional income
1.Over birr 50 - 250	10%
2. >> >> 250 - 500	13%
3. >> >> 500 - 750	19%
4. >> >> 750 - 1000	24%
5. >> >> 1000 - 1250	29%
6. >> >> 1250 - 1500	34%
7. >> >> 1500 - 1750	39%
8. >> >> 1750 - 2000	44%
9. >> >> 2000 - 2250	49%
10.>> >> 2250 - 2500	54%
11.>> >> 2500 - 2750	59%
12.>> >> 2750 - 3000	64%
13.>> >> 3000 - 3250	69%
14.>> >> 3250 - 3500	74%
15.>> >> 3500 - 3750	79%
16.>> >> 3750	85%

Source: Negarit Gazeta, No.3,10th October 1978.

From the point of view of popular supply side tax policy, the reform had lot of problems. Because from its set of policy prescriptions, lowering of tax rates (particularly top marginal income tax rates) and reducing the progressivity of income taxation is the most prominent recommendation. By reducing marginal tax rates, dramatic increase in tax revenue (since it increases the supply of labour significantly through induced shifts from leisure to work), a sharp rise in saving (for it encourages large shifts from consumption to saving) and a relatively painless reduction in inflation will be obtained [Gandhi (1987, P.9)]. However the above efficiency aspect of the tax system was neglected during the (income tax) reform.

Other major tax reform undertaken in the 1970s was the introduction of Urban Land Rent and Urban House Tax (Proclamation No.80/1976). The 1976 act apart from broadening the tax base to generate additional revenue to the new government, it was necessary, according to the act, to have a healthy urban society thereby corresponding the provision of services with their demand. Accordingly any person, family, organization or cooperative society of urban dweller had to pay the municipality (or to the town administration) an annual rent according to schedules 1 and 2 for urban land under his or its possession and an annual tax on the rental value of the house in accordance with schedule 3 for the house he or it owns.

Schedule 1

Rate of rent payable on urban land used for dwelling houses  
(1976)

Area of land in square meters	Rate of rent on land in grade 1 (birr per sq. meter)	Rate of rent on land in grade 2 (birr per sq. meter)	Rate of rent on land in grade 3 (birr per sq. meter)
Up to 500	up to 0.06	up to 0.04	up to 0.02
501 to 1000	>> >> 0.08	>> >> 0.06	>> >> 0.04
1001 to 1500	>> >> 0.11	>> >> 0.08	>> >> 0.05
1501 to 2000	>> >> 0.13	>> >> 0.10	>> >> 0.07
2001 and above	>> >> 0.16	>> >> 0.14	>> >> 0.12

Schedule 2

Rate of rent payable on urban land used for business houses.

Area of land	Rate of rent on land in grade 1 (birr per sq. meter)	Rate of rent on land in grade 2 (birr per sq. meter)	Rate of rent on land in grade 3 (birr per sq. meter)
Per sq. meter	up to 0.06	up to 0.04	up to 0.02

Schedule 3

Rate of tax payable on urban houses

Annual rental value of the house (in birr)	Tax rate
up to 600	up to 1%
above 600 - 1200	>> >> 1.5%
>> 1200 - 1800	>> >> 2.0%
>> 1800 - 2400	>> >> 2.5%
>> 2400 - 3600	>> >> 3.0%
>> 3600 - 4800	>> >> 3.5%
>> 4800 - 6000	>> >> 4.0%
>> 6000	>> >> 4.5%

source: For both schedules Negarit Gazeta(1976), No.25, 15th March.

The assessment of the rental value of a house for more than birr 100 was carried out by the then Ministry of Public Works and Housing. Where as the assessment of rent was made depending on the grade of the land. Exemption from rent and tax was allotted to public roads, squares, recreation and sport centres, places of worship and their components, non\_profit making private schools, hospitals, charitable institutions and government institutions drawing their budgets from the Ministry of finance.

The 1976 act was re-introduced in 1979 (Urban Land Rent and Urban House Tax Proclamation No.161/1979) to further dichotomize schedule 2 thereby adding subgrade for services and industry and charging different rates for such sub-grades.

Also under taken in late 1970s was Excise Tax Amendment (Proclamation No.18/1975). The new act amended the previous excise tax by adding new items to be taxed to the list of specified goods. Subsequently, tobacco leaf, cigarettes, cigars, cigarillos, pipe tobacco products were subjected to ad valorem tax rate of 30 percent.

On the other hand, the Alcohol Excise Tax Amendment of 1975 (General Notice No.17/1975) increased the excise tax rates on locally manufactured beer and stout. The excise tax was re-introduced in 1979 (Proclamation No.160/1979) to further increase the excise rates on some imported commodities such as wine, vermouth, beer and stout of any strength. In addition, the excise tax on both imported and locally produced tobacco, snuff and other tobacco products were further increased to an ad valorem rate of 57% (and to 69% in 1988)<sup>19</sup>.

However in 1975 the government reduced the excise tax rates on some products. As a result, the excise tax rates of petroleum

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<sup>19</sup> In applying the ad valorem rate for imported goods, the tax was based on the value that customs duty was assessed; while for locally manufactured goods the ad valorem tax was based on the normal selling price of the manufacturers to the whole sellers deducted by the excise tax payable.

products and lubricants of the 1967 (Proclamation No.249/1967) were reduced by the Petroleum Products and Lubricants Amendment of 1975 (Proclamation No.45/1975).

The transaction act of 1975 (Proclamation No.23/1975) in its part increased the tax rates of both imported and locally manufactured goods. Even there after, the tax rates continued to rise over time.

For example in 1979 (by the Transaction Taxes Amendment Proclamation No.159/1979) imported goods were charged, levied and collected at the rate of 18% (instead of 12%) with a view to promoting export and protecting domestic industries. This act also increased the sales tax rates on locally manufactured goods from 5 to 7%. In addition, imported and locally manufactured pharmaceutical items were subjected to 15 and 5 percent transaction taxes respectively.

As to customs duty, the Ministry of Finance repealed all the customs revised import and export regulations of 1951 (as amended) and subsequently replaced them by new regulations as well as by the customs tariff classification system of goods and rates. Accordingly, with a view to improving compliance and tax administration, all goods were categorized in to 21 sections (each section with different chapter and tariff number) following the Convention on Nomenclature for the Classification of Goods in Customs Tariffs (Proclamation No.95/1976). There after successive customs tariff regulations (e.g legal Notice Nos.52/1977 and 68/1979) were introduced to simplify the tariff section problems of some goods.

To summarize, tax reform in the second half of the 1970s, largely focused on revenue generation. As a result it broadened the tax base by expanding the bases of existing tax instruments (e.g The Rural Land Use Fee and Agricultural Activities Income Tax expanded the base of income tax) and increased the tax rates.

#### 4.3.2 Tax reform in the 1980s

The over all economic atmosphere of the 1980s was inconclusive. The economy began to recover during 1978/79-1980/81 as the government consolidated its power and the institutional reforms began to take place. As a result during this period GDP grew at an average annual rate of 5.6%. Where as the mainstay of the economy, agriculture, increased at an average annual rate of 3.6% [Mulatu (1990, P.212)]. On the contrary, the economy exhibited poor performance in the second half of the 1980s. In particular GDP growth rates have been negative for four years since 1988. In 1989/90 the over all GDP growth rate was negative 0.9% [MOPED, 1991/92 p.3]. Total government expenditure reached 30.8% GDP in 1989/90 with an over all deficit of 17.1% [MOPED, 1988/89]. Perhaps because of the high government expenditure of the second half of the period and the need for additional revenue, tax reform in the 1980s mainly aimed at revenue generation both through rate increasing and base broadening. To be specific, most of the reforms focused on rate increasing.

One of the major tax reform in the 1980s was the excise tax act of 1983 (Proclamation No.245/1983). It levied, charged and collected an ad valorem tax rate of 74 percent on locally produced Nyala and Ideal cigarettes. Further more the excise tax on imported cigarettes, cigars, cigarillos, pipe tobacco, snuff and other tobacco products was raised to an ad valorem rate of 74 percent. However, the excise tax rate for tobacco leaf remained 57% as before. Excise tax was re-introduced in 1986 (Excise Tax Proclamation No. 298/1986) to further increase the excise tax rates on imported cigarettes, cigars, cigarillos, pipe tobacco, snuff and on locally produced Nyala, Ideal and Gisela cigarettes. Consequently, the excise tax on locally produced Nyala, Ideal and Gisela rose to an ad valorem rate of 114, 86 and 84% respectively. Whilst the excise tax on imported cigarettes and et al increased from an ad valorem rate of 74 to 123%.

Excise tax rates on cigarettes were further increased in 1988 (Special Decree No.5/1988). The new act raised the ad valorem tax rates on locally produced Nyala, Ideal and Gisela cigarettes to 159, 105 and 109% respectively. In addition, an ad valorem tax rate of 69% on Gureza cigarette was introduced. On the other hand the excise tax rate on locally produced and imported cigarettes and et al increased to 69 and 197% respectively.

Similarly the 1983 alcohol excise tax act (Proclamation No.246/1983) raised the tax rates of alcoholic liquors, beer and stout of any strength. For example, the excise tax on imported alcoholic liquors was raised to birr 4.5 per litre.

Table 4.7: Comparison of excise taxes on imported alcoholic liquors

Description	1965 (Procl.No.217/1965)	1983 (Procl.No.246/1983)
1. Alcoholic liquors per litre	birr 2.50	birr 4.50
2. Alcoholic liquors more than 100 ml but not exceeding 700 ml	birr 1.75	birr 3.50
3. Alcoholic liquors 100 ml or less.	birr 0.25	birr 1.75
4. Beer and stout of any strength up to 350 ml.	birr 0.20	birr 0.65
5. Beer and stout of any strength more than 350 ml but not exceeding 650 ml.	birr 0.25	birr 0.70
6. Beer and stout more than 650 ml but not exceeding one litre.	birr 0.30	birr 0.75

Source: 1965 and 1983 Proclamations.

Where as for locally produced alcoholic liquors (excluding *tella* and *tej*) excise tax of birr 4.50 was paid per litre.

Alcohol excise tax was re-introduced in 1986 (Proclamation No.302/1986) to further increase the excise tax on both locally produced and imported pure alcohol. As a result, the excise tax was raise to birr 20.25 per litre (compare birr 8 per litre in 1965). And again in 1988 (by the Special Decree No.6/1988) the excise taxes on both imported and locally produced wine,

vermouth, beer and stout were highly raised. For instance the excise tax on imported alcoholic liquor was birr 8 per litre; while for wine or vermouth, the tax was birr 4.5 per litre.

To sum up, excise taxes on alcohol have been growing over time. The 1980s tax reform also gave birth to the introduction of Petroleum Operations Income Tax (Proclamation No. 296/1986). It broadened the base of income tax and increased tax revenue. Any person engaged in petroleum operations (i.e, in the exploitation, development, extraction and production) had to pay fifty percent income tax on that part of taxable income. The taxable income of a person from petroleum operations was determined by the value of all petroleum produced and saved. However, dividends which had been paid to share holders were exempted from income tax. Associated with this, loan lenders had also been charged 15% income tax on their gross interest from loans.

With regard to customs duty, customs tariff applicable to the Preferential Trade Area for Eastern and Southern African states (PTA) was enacted in 1986. The regulation discriminated tariff rates between member and non-member states. In general, the tariff rates were lower for PTA members than non-members.

Later on in 1989 (by Special Decree No.14/1989) the excise taxes on benzine, benzoline, petrol, gasoline were increased. On the other hand, the income tax act of 1990 (Special decree No.18/1990) amended schedule C of the income tax proclamation No.173/1961. The new act decreased the number of income brackets from 30 to 18. Besides, the marginal tax rates were lower in the low income brackets than high income brackets. The marginal tax rates for high income groups were very high. for example, under the new act, the marginal tax rate for birr 24,000 and above was 59 percent; where as under the 1961 income tax act, the marginal tax rate for birr 15,000 and above was 16 percent.

The other major tax reform was in the area of sales tax (special Decree No.16/1990). The sales tax consolidated the many and scattered indirect taxes so that tax administration and collection could be facilitated. Further more it was believed that the reform could facilitate the settlement of tax liabilities by tax payers and thereby increased government revenue. Accordingly the following were repealed: The Excise Tax Proclamation No.204/1963 as amended and Legal Notices issued thereunder, The Alcohol Excise Tax Proclamation No.217/1965, the Petroleum Products and Lubricants Excise Tax (Proclamation No.249/1967) and The Federal Salt Tax (Proclamation No.146/1955).

The bases of the computations of the tax were: (1) the producers' selling price in the case of locally produced goods, (2) the price on which the customs duty is assessed for imported goods and (3) the service charge for services supplied.

Under the new act, the tariff rates were highly increased. For example the General Sales Tax Tariff on imported Alcohol and Alcoholic Products sold to licensed manufacturers (for use in the production of alcoholic beverages) was 279.68% of the price per litre. Where as the tariff rate for locally produced alcohol and alcoholic products was 267.68% of the selling price.

The General Sales Tax rate on imported cigarettes, cigar, cigarillos, pipe tobacco, snuff and other tobacco products was 219.03 percent. Where as for locally produced cigarettes (other than Nyala, Ideal ,Gisila and Gureza) the tariff rate was 80.27 percent.

In general, during 1980s, tax reform aimed mainly at revenue generation through rate increasing.

#### 4.4 Tax reform during the Transitional and the Federal Governments(1991-1996)

The Transitional Government and latter on the Federal Government have found it important to reform the various types of taxes in the tax system in order to facilitate the implementation of the new economic policy.

One of the major reforms of this period was income tax (Proclamation No.30/1992). Here the tax exempt income from employment was amended. As a result the first 105 birr was exempt from the payment of income tax. Where as income over barr 105 was charged, levied and collected according to the following table.

**Table 4:8 Tax rate on Income from Employment (Proclamation No.30/1992)**

Taxable monthly income (in barr)	Tax rate on every additional income (percentage)
106-400 on the next 295	10%
401-700 >> >> >> 300	15%
701-1000 >> >> >> 300	20%
1001-1300 >> >> >> 300	25%
1301-1600 >> >> >> 300	30%
1601-1900 >> >> >> 300	35%
1901-2200 >> >> >> 300	40%
2201-2500 >> >> >> 300	45%
over 2501	50%

Source: Negarit Gazeta, No.4, 12th October, 1992

The new act decreased the income tax brackets from 16 to 9. In addition the marginal tax rates decreased from a range of 10-85% to 10-50% in 1992. However, after two years, income tax was re-introduced in 1994 (Proclamation No.107/1994). Here, again the number of income brackets were further reduced from 9 to 4. And the tax exempt income increased from barr 105 to barr 120. The marginal tax rates are still found in a range of 10-40 percent.

the tax base and contributed to additional revenue. The rationale for the introduction of the tax according to the 1994 act was the conducive nature of the economic policy of the Transitional period. The policy has created conducive environment for the revitalization of the private sector of the economy; and it was recognized that the development of the private sector would lay down basis for the expansion of the transaction in capital assets. Thus, levying tax on all gain full activities in the economy was thought to maintain neutrality and equatability in the tax system.

Tax is paid on capital gains realized from the increase in value up on the sale of: (1) shares and bonds, and (2) urban houses. The rate of the tax is 30 percent. The value of the capital asset is the price for which the capital asset is sold.

As to the assessment of the tax, the tax on gains from the increase in value of capital assets is calculated and paid thereby adjusting for inflation and loss of capital incurred. Thus any person or organization having gains from the increase in the value of capital assets has to declare his/its gains and pay the tax within one month period from the sale of capital assets.

As to exemption, the aggregate annual gains of less than barr 10,000 realized up on sale from the increase in value of capital assets is exempted form tax.

On the other hand Rental Income Tax Proclamation No.62/1993 increased the tax rates thereby amending proclamation No.173/1961. The tax payable under this article shall be charged, levied and collected at the following rates:

a) on income of organizations and associations having legal personality 35% of taxable income.

b) on income of persons according to Schedule "B" hereunder. The number of income brackets have now decreased from 16 to 7.

**Schedule B: Rental income tax on income of persons (proclamation No. 62/1993).**

Annual taxable income (in barr)	Tax rate on every additional income (percent)
up to 1200	exempt
1201-6000	10
6001-12500	15
12501-21500	21
21501-33500	28
33501-50000	36
over 50000	45

Source: Negarit Gazeta, No.62/1993.

The 1993 Sales and Excise Tax Proclamation (NO.68/1993) has also resulted in tax base broadening in order to increase tax revenue. Accordingly, the sales tax is paid on:

a) goods sold locally and goods imported (such as live animals, meat and edible meat offal, fish, crustaceans and molasses, milk and cream, etc) at a rate of 5 percent or fixed rate on the basis of weight as the case may be.

b) goods sold locally and goods imported, except goods mentioned above, at the rate of 12 percent.

With regard to services, contractors and tax payers whose daily sales income is between barr 25.50 pay 5 percent; others pay 10 percent.

Excise tax on the other hand is paid on such goods as sugar, drinks, pure alcohol, denatured alcohol, tobacco and tobacco products, salt, leather, textile, various kinds of personal adornment of any origin, video decks, television or video cameras, television broadcast receivers.

## Summary

Now it is evident that tax reform in Ethiopia during the past five decades has largely aimed at increasing revenue rather than improving efficiency, equity or simplicity for that matter. It

was the 1960s tax reform that focused on many objectives (providing fiscal incentives, improving compliance and tax administration and revenue generation). As a result, tax reform has been used as an instrument of raising tax revenue.

But the question is that to what extent the country managed to exploit its estimated tax potential in the process of raising revenue? In other words, what was the magnitude of tax effort for the period? This is the core of the analysis of the rest of this paper. In what follows, analysis of taxable capacity and tax effort will be presented.



**CHAPTER FIVE**  
**TAXABLE CAPACITY AND TAX EFFORT: EMPIRICAL**  
**ANALYSIS**

As stated previously tax effort is measured by relating actual tax collection to some indicator of taxable capacity of the country. The taxable capacity of a country is measured by the ratio of tax to GDP/GNP as predicted by the regression equation. Thus, tax effort is an index obtained by dividing the actual ratio of taxation to GDP by the predicted ratio, that supposed to give the taxable capacity.

In earlier discussion of taxable capacity, considerable attention has been given to the ratio of tax revenue to National Income (GDP/GNP). This formulation implies that total income is a proper indicator of taxable capacity; and following this, tax effort has been calculated as the ratio of tax revenue to income [Lotz and Morss (1967, pp.478-479)].

**Table 5.1: Ratio of tax revenue to GDP, 1960/61-1996/97 (Percentages)**

year	tax ratio	year	tax ratio	year	tax ratio	year	tax ratio
1960	6.31	1970	8.60	1980	13.64	1990	10.79
1961	6.80	1971	9.30	1981	13.70	1991	8.12
1962	6.88	1972	9.62	1982	13.06	1992	8.78
1963	11.01	1973	9.63	1983	15.91	1993	11.24
1964	8.30	1974	10.63	1984	12.89	1994	12.02
1965	8.39	1975	10.23	1985	13.85	1995	12.87
1966	8.54	1976	12.49	1986	14.46	1996	13.13
1967	8.18	1977	12.87	1987	15.56		
1968	8.13	1978	14.30	1988	15.04		
1969	8.29	1979	15.21	1989	12.81		

*Source:* Data on total tax revenue are obtained from the Planning and Research Department, Ministry of Finance. Data on GDP are obtained from the National Accounts Department, Ministry of Economic Development and Cooperation.

From the above table one can see that the maximum tax-ratio, that is 15.911 percent, was observed in 1983. Where as the minimum is 6.31 percent. The mean is found to be 10.9021 percent. The standard deviation, on the other hand, is 2.9299. However, this kind of measurement does not take into account certain economic and non-economic factors which might be important in evaluating the tax effort of a particular country. Subsequently, in addition to aggregate income other factors affect a country's taxable capacity. One of the most important is the level of economic development. Virtually, economic development has many dimensions and can't be measured precisely by a single variable. However, one variable frequently used by economists to give a rough idea of the stage of development is per capita income [Lotz, and Morss (1967, P.481)]. Thus, one would expect a positive relation ship between taxable capacity and per capita income. This is because as income grows countries generally become more urbanized. Urbanization per se brings about a greater demand for public services while at the same time facilitating tax collection. Thus, it increases the need for public services for tax revenue and the capacity to tax [Tanzi (1987, p.218)].

With regard to this relationship, Lotz and Morss noted that:

there is another reason to expect a positive relationship between per capita income and taxable capacity. For two countries with the same total income but with a per capita income of, say \$50 in the first country and \$1500 in the second, taxable capacity is greater in the second, because a smaller proportion of total income is required for subsistence needs and more 'surplus' is available for taxation and other purposes. It follows that, if the two countries raise the same total amount of tax revenue and thus have equal tax ratios, the first country is making the greater tax effort.

Similarly, taxable capacity appears to increase with the size of the foreign trade sector. Because foreign trade generates high

tax revenue with small administration cost for it is administratively easier to tax trade inflows and outflows than domestic transactions. In addition, the economic structure particularly the relative sizes of agriculture and mining are also considered in evaluating the tax effort.

With regard to the relationship between per capita income and tax ratio, the empirical findings of IMF (Staff papers) reveal that per capita income has a positive relationship with the tax ratio and statistically significant. The regression result for all developing countries was  $t = 13.48 + 0.0081 YP$ ; where  $t$  value for  $YP$  being 10.50 [Lotz (1967, P.480)].

The same is true with Ethiopia. The correlation of tax ratio against the logarithm of per capita GDP supports the above expectation over the years 1959/60 - 1995/96.

$$t = 8.1029 + 0.01166 (YP)$$

$$(8.1029) \quad (3.3962)$$

$$R^2 (\text{bar}) = 0.344$$

Where  $Yp$  is per capita income. The numbers in parentheses are  $t$  statistics. GDP per capita seems to correspond with the tax ratio; however the correlation is not strong. If we calculate elasticity<sup>21</sup> at the sample mean, we found it to be 0.2568. This means that a one percent increase in per capita income results in a 0.2568 percent increase in the tax ratio. It is inelastic.

<sup>21</sup> Elasticity at the sample mean for an equation like  $t = \alpha + \beta YPf$  is calculated as follows:

$$\frac{\partial t}{\partial YPf} \cdot \frac{\overline{YPf}}{t} = \beta \cdot \frac{\overline{YPf}}{t}$$

The value of beta in our case is 0.01166. The calculated mean for per capita income is 240.0596 and the mean of the dependent variable, i.e  $t$ , is 10.9021.

Some theoretical arguments also lend support to a causal relationship between per capita income and tax level (for example, Musgrave's tax base, or tax handle theory), but it would be naive to accept a purely deterministic or mechanical relationship, as many historical, political or social factors play a role [Tanzi (1987, P. 222)].

On the other hand, foreign trade offers a tax handle<sup>22</sup> that has long been used to extract revenue. Foreign trade, usually measured as the ratio of the sum of exports and imports to GDP or GNP, is positively related to the tax ratio and is statistically significant.

OLS regression of tax ratio on (the value of) the share of the sum of exports and imports to GDP over the years 1959/60-1995/96 has given the following result.

$$t = 1.2733 + 51(s_{xm} + s_{ch})$$

$$(0.7015) \quad (5.4125)$$

$$R^2 (\text{bar}) = 0.44$$

Where  $s_{xm}$  and  $s_{ch}$  give the share of the total sum of imports and exports in GDP. The numbers in parentheses are t values. The result is consistent with the above hypothesis. Elasticity at the sample mean is found to be 0.8698. This means, a one percent increase in the share of the value of the sum of imports and exports will result in a 0.8698 percent increase in the tax ratio.

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<sup>22</sup> Tax handles are objects of taxation or economic sectors that can be reached with relative ease [Goode (1984, P.84)].

The share of agriculture on the contrary has exhibited a negative relationship (t values are in parentheses). The elasticity is found to be -0.4761 which implies that a 1 percent increase in the share of agriculture will result in a 0.4761 percent decrease in the tax ratio.

$$t = 16.093 - 11.792 s_a$$

$$(9.219) \quad (-3.070)$$

$$R^2 (\text{bar}) = 0.19$$

Where  $s_a$  is the share of agriculture in GDP; the negative relationship between tax ratio and the share of agriculture in GDP supports the hypothesis and it is consistent with many formulations. However, the correlation is not strong.

Mining, another tax handle, generates economic rent. Frequently, it is carried out by large scale enterprises. And many IMF studies confirm that the share of mining (including petroleum production) in GDP is positively related to the tax ratio [Goode (1984, P.87)]. This hypothesis is also confirmed in Ethiopia but it is statistically insignificant and the correlation is weak. This may be explained because of the smaller of the sector.

$$t = 10.603 + 0.0189 s_n$$

$$(14.081) \quad (0.521)$$

$$R^2 (\text{bar}) = 0.07$$

Where  $s_n$  is the share of mining in GDP. Let us now estimate our taxable capacity equations based on regression approach. For the sake of methodological convenience (in order to avoid multicollinearity problems) two alternative taxable capacity equations will be explored. First, a regression of total tax ratio (t) on (1) per capita non export GDP (YP), (2) the share of the value of coffee, hides and skins exports in GDP ( $s_{ch}$ ) and (3) the export ratio excluding coffee, hides and skins exports ( $s_x$ ). Second, a regression of t on (1) the share of agriculture

in GDP ( $s_n$ ),  $s_{ch}$  and (3) the share of import and export ratio excluding coffee, hides and skins exports ( $s_{xm}$ ). Thus two main equations will be estimated.

$$t_1 = B_1 + B_2 Y_{2t} + B_3 s_{ch3t} + B_4 s_{x4t} + U_t \dots\dots\dots(1)$$

$$t_2 = B_2 + B_3 s_{n3t} + B_4 s_{ch4t} + B_5 s_{xm5t} + U_z \dots\dots\dots(2)$$

**Regression results:**

Since the data used in this analysis are time series, the variables used were first tested for stationarity. Using the DF(Dickey-Fuller) and Augmented Dickey-Fuller (ADF) tests<sup>23</sup>, the variables were found to be non-stationary (see Table 5.2).

With regard to the DF test, the assumed data generating process is  $Y_t = Y_{t-1} + \varepsilon_t$  with  $\varepsilon_t \sim NID(0, \sigma^2)$  subtracting  $Y_{t-1}$  from both sides and estimating  $\Delta Y_t = \pi Y_{t-1} + \varepsilon_t$  .....(3)

Where  $\pi = 0$  if  $Y_t$  is  $I(1)$ . A one side t-test  $H_0: \pi = 0$  against,  $H_1: \pi < 0$  determines if  $Y_t$  is  $I(0)$  or  $I(1)$  [sjoo (1997, P.3)].

ADF test, on the other hand, seeks to solve the problem by augmenting the equation with lagged  $\Delta Y_t$ .

$$\Delta Y_t = \pi Y_{t-1} + \sum_{i=1}^k \gamma_i \Delta Y_{t-i} + \varepsilon_t$$

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<sup>23</sup> The ADF test was made on Microfit package.

Table 5.2: Unit root test results for variable in levels.

Variables	Statistic	Observations	Without trend	With trend
t	DF	36	-2.2754 [-2.9446]	-2.2962 [- 3.5386]
	ADF(1)	35	-1.9614 [-2.9472]	- 1.9639 [- 3.5426]
Yp	>>	>>	3.1332 [- 2.9446]	1.0129 [- 3.5386]
			1.1741 [-2.9472]	1.1379 [-3.5426]
S <sub>ch</sub>	>>	>>	-2.4434 [-2.9446]	-2.3712 [- 3.5386]
			-2.6560 [-2.9472]	- 2.5541 [- 3.5426]
S <sub>x</sub>	>>	>>	-1.7996 [- 2.9446]	-2.4564 [- 3.5386]
			-2.4436 [-2.9472]	- 3.5769 [- 3.5426]
S <sub>xm</sub>	>>	>>	-2.2329 [- 2.9446]	-2.5400 [- 3.5386]
			-2.7813 [- 2.9472]	- 3.0941 [- 3.5426]
S <sub>n</sub>	>>	>>	0.71422 [- 2.9446]	-1.2046 [- 3.5386]
			0.43577 [- 2.9472]	- 1.1420 [- 3.5426]

Note: numbers in brackets are critical values at 95% confidence interval.

For non-stationary variables, the mean and variance of the underlying distribution from which an observation is drawn are not constant, but depend on the point in time at which the observation was made. As a result, regression using these non-stationary variables ( $t$ ,  $yp$ ,  $s_{xm}$ ,  $s_x$ ,  $s_{ch}$ ,  $s_n$ ) is very likely to yield seemingly impressive regression results which are wholly spurious.

Thus, after having proved that the data is non-stationary, the order of integration was determined. And all variables were found to be integrated of order one,  $I(1)$ . This means that if the variables are differenced once, then by definition they will be stationary (see Table 5.3).

Table 5.3: Unit root test results for differenced variables

Variable	Statistic	Without trend	With trend	Order
t	DF	-6.5838 [- 2.9472]	-6.5600 [- 3.5426]	I(0)
	ADF(1)	3.8431 [- 2.9499]	-3.8154 [-3.5468]	
YP	DF	-5.0630 [- 2.9472]	-6.2762 [- 3.5426]	I(0)
	ADF(1)	3.0681 [- 2.9499]	3.9792 [- 3.5468]	
S <sub>ch</sub>	DF	-5.6268 [- 2.9472]	-5.5821 [- 3.5426]	I(0)
	ADF(1)	3.9113 [- 2.9499]	3.8486 [- 3.5468]	
S <sub>x</sub>	DF	-4.5027 [- 2.9472]	-4.4590 [- 3.5426]	I(0)
	ADF(1)	4.1790 [- 2.9499]	4.1322 [- 3.5468]	
S <sub>xm</sub>	DF	-5.4552 [- 2.9472]	-5.3937 [- 3.5426]	I(0)
	ADF(1)	4.4344 [- 2.9499]	4.3870 [- 3.5468]	
S <sub>n</sub>	DF	-5.8602 [- 2.9472]	-5.8801 [- 3.5426]	I(0)
	ADF(1)	3.5115 [- 2.9499]	3.5877 [- 3.5468]	

Note: Numbers in brackets in the above Table are critical values at 95% confidence interval. The number of observations for DF and ADF are 35 and 34 respectively.

The regression results in this analysis were estimated after having conducted cointegration tests for the existence of any long run economic relationship between the dependent and independent variables. Accordingly, static regressions were run to obtain residuals from the levels, then they were tested for stationarity using ADF test. The type of test used was the Engle and Granger two step procedure [sjo0 (1997, P. 3)]. Accordingly, the first step was to estimate the co-integrating regression. That is if for example  $y_t$  and  $x_t$  are two variables integrated of order one, the first step is to do Ordinary Least Square (OLS).

$$y_t = \alpha + \beta x_t + z_t$$

Where  $z_t$  is the estimated residual

If the variable are co-integrating,  $z_t$  will be  $I(0)$ . The second step is to perform ADF unit root test for the estimated residual.

$$\Delta \bar{z}_t = \alpha + \pi \bar{z}_{t-1} + \sum_{i=1}^k \gamma \Delta z_{t-i} + \varepsilon_t$$

Where,  $H_0: \pi = 0$

$H_A: \pi < 0$

Thus if the null is rejected, then we conclude that the variables are co-integrated. The long run co-integrating parameter is given by  $\beta$ . Here the null hypothesis is that the residual has a unit root. That is the dependent and independent variables are not cointegrated. And the alternative is that the variables are cointegrated. Thus, when the residuals turn out to be stationary, then the series are cointegrated. The levels regression will then provide consistent estimates of long run relationship.

Table 5.4: Unit root test results for residuals based on OLS regression of equation 1.

Statistic	Sample	Observations	T-Values
DF	1962/63- 1989/90	29	-7.0937[- 4.4962]
ADF(1)	1963/64- 1989/90	28	-4.8597[- 4.5113]

Note: numbers in brackets are critical values at 95% confidence interval .

From the above unit root test result both the critical values of DF and ADF are less than the computed DF and ADF in absolute value, thus, the null hypothesis was rejected implying the existence of long run relationship between the variables. Similarly, the test results of equation 2 and 1 (for different periods) are presented below.

Table 5.5: Unit root test results for residual based on OLS regression of equation 2.

Statistic	Sample	Observations	T-Values
DF	1960/61- 1989/90	30	-5.8407[- 4.482]
ADF(1)	1961/62- 1989/90	29	-4.3560[- 4.4962]

Note: numbers in brackets are critical values at 95% confidence interval.

Table 5.6: Unit root test results for residuals based on OLS regression of equation 1.

Statistic	Sample	Observations	T-Values
DF	1966/67- 1995/96	30	-6.4184[- 4.4821]
ADF(1)	1967/68- 1995/96	29	-5.0349[- 4.4962]

Note: numbers in brackets are critical values at 95% confidence interval.

Thus tables above reject the null hypothesis in that the variables are cointegrated.

With regard to test for structural breaks, the CUSUM test for model stability is conducted. The test was originally suggested by Brown and et al. The confidence bounds for the sum are obtained by plotting two lines. The hypothesis (no structural break) is rejected if the cumulated sum of residuals strays outside the boundaries [Green (1993, PP. 216-219)]. The result states that there is no structural breaks. Look appendix for the CUSUM test results.

Table 5.7: Regression Results

Equations	variables	coefficie nt	S/error	T values	R <sup>2</sup> (bar)	DW
eq.1 62-90	B1 YP s <sub>rn</sub> s <sub>x</sub>	-2.933 0.053 86.796 50.016	1.892 0.004 21.305 26.503	-1.550 13.250 <sup>a</sup> 4.074 <sup>a</sup> 1.887 <sup>c</sup>	0.84	2.32
eq.2 60-90	B2 s <sub>n</sub> s <sub>ch</sub> s <sub>xm</sub>	16.054 -29.991 79.117 37.854	3.321 3.946 15.760 12.349	4.834 -7.599 <sup>a</sup> 5.020 <sup>a</sup> 3.065 <sup>b</sup>	0.89	2.03
eq.1 91-96	B1 YP s <sub>ch</sub> s <sub>x</sub>	-1.449 0.022 21.603 234.67	0.287 0.003 2.632 37.634	-5.049 7.333 <sup>c</sup> 8.208 <sup>c</sup> 6.236 <sup>c</sup>	0.97	2.5
eq.2 91-96	B2 s <sub>n</sub> s <sub>ch</sub> s <sub>xm</sub>	6.669 -0.135 72.540 24.444	1.150 1.964 11.940 4.595	5.799 -0.069 <sup>b</sup> 6.075 <sup>b</sup> 5.320 <sup>b</sup>	0.91	2.13
eq.1 65-96	B1 YP s <sub>ch</sub> s <sub>x</sub>	-3.007 0.050 93.781 55.811	2.062 0.004 23.009 28.765	-1.458 12.750 <sup>a</sup> 4.076 <sup>a</sup> 1.940 <sup>b</sup>	0.80	2.07
eq.2 60- 96	B2 s <sub>n</sub> s <sub>ch</sub> s <sub>xm</sub>	5.480 -4.188 40.124 30.544	3.469 6.500 17.507 9.039	1.560 -0.644 2.292 <sup>b</sup> 3.379 <sup>b</sup>	0.82	2.00

Notes: (1) numbers 62-90, 60-90, are to mean 1962/63-1990/91, 1960/61-190/91 and so on. (2) a, b and c imply significance at the 1, 5 and 10 percent level respectively.

Table 5.8: Tax effort indices: Based on two equations

Year	Equation 1	Equation 2
1959/60 - 1989/90	0.9849	0.9975
1990/91 - 1995/96	0.8935	0.7722
1959/60 - 1995/96	0.9081	1.1129

As stated above, in Table 5.6, both equations have given similar results. The over all tax effort indices, i.e 0.9081 and 1.1129, for the periods 1959/60 to 1995/96 are all good. Since they are close to unity, it is possible to take them as average tax effort indices.

The tax effort index 0.8935 (calculated as actual tax revenue collected during the period, which is 63.843 million birr, over the predicted tax revenue by the regression equation, 71.4517 million birr) means that Ethiopia during that particular period collected 10.65 percent less taxes than predicted. On the other hand, the index 1.1129 implies that the country raised 11.29 percent more taxes than predicted.

The tax effort indices during the Transitional and Federal Governments, i.e 0.8935 and 0.7722, are found to be the smallest in their respective equations. This may be explained partly because the new government has focused on efficiency rather than revenue generation. The over all result can be evaluated as medium tax effort index. And this result is consistent with our conclusion in chapter four in that the major emphasis of tax reforms during the past five decades was revenue generation.

These results re-enforce some IMF research studies of tax effort for the purpose of international comparison. In a study of IMF ,for selected developing countries conducted by Alan A. and et al, (1979) Ethiopia was categorized among countries with medium tax effort index. The tax effort index was 0.803 for the period 1972-1976 [Goode (1984, P.84)]. And for the period 1974-1979, the index reported was 0.9590.

## CHAPTER SIX

### CONCLUSIONS AND POLICY RECOMMENDATIONS.

Tax reform is required when the existing tax system is deficient in achieving its objectives - revenue adequacy, efficiency, equity and administrative feasibility.

In recent years most developing countries are suffering from chronic fiscal deficits. In addition, access to new borrowing is limited for a variety of reasons. Thus tax reform is primarily devoted to generate revenue so as to finance public and social services. Since the beginning of the 1940s, the tax system of Ethiopia has undergone fundamental reforms. And it is evident that tax reform during the past five decades has largely aimed at raising revenue in order to match the growing fiscal spending. It was the 1960s tax reform that focused on many objectives, in addition to raising revenue, such as providing fiscal incentives, improving compliance and tax administration. Similarly, tax reform during the Transitional and Federal Governments was targeted towards many objectives in addition to the objective of raising revenue. During this period the tax system was redirected to facilitate the implementation of the new economic policy. As a result, simplification and rationalization of taxes, through the reduction of rates and rate categories with a view to improving compliance and tax administration, took place. In general tax reform has been used as an instrument of raising revenue.

Estimates of tax effort indices, that tell us as to what extent the country managed to exploit its estimated tax potential in the process of raising revenue, suggest that the country has almost succeeded to exploit its tax base on the average. Estimates of tax effort indices for the period 1990/91 to 1995/96 have found to be less than unity. This may be partly

explained because the Transitional and Federal Governments have focused on efficiency rather than revenue generation only. Where as indices of tax effort for the period 1959/60 to 1989/90 were almost one. In general, tax effort indices for the whole period, 1959/60 to 1995/96, were near to unity. And the result is consistent with our analysis of tax reforms over the past five decades in that the major objective of tax reforms during the period was revenue generation both through base broadening and rate increasing.

In estimating the taxable capacity equation, total tax revenue was best explained by the import-export ratio, the export ratio and within this category the coffee, hides and skins exports, per capita GDP and the share of agriculture in GDP.

#### **Policy recommendations.**

Currently Ethiopia is undertaking free market economic system. The tax system is directed towards implementing the new economic policy. It is unlike the previous decades in that the system of taxation or tax reform should not be used only as an instrument to raise revenue. Thus, the country should also concern it self with objectives of efficiency as well; such as economic stabilization, the creation of social and economic infrastructure for economic growth and development.

But this does not mean that the country has to concern itself with efficient allocation of given resources other than objectives. Since the country has so many problems (such as a rapidly growing population, high unemployment, dominance of agriculture, inadequate economic infrastructure, etc) the role of the state is important with regard to macro economic management, regulation and promotion of economic activities, human capital and infrastructure development and paternalistic role (merit goods).

Therefore, the following points should be taken in to consideration as policy recommendations:

1. Tax reform should not be used only as an instrument to raise revenue. The country could address multiple objectives by altering specific features of each tax instrument.
2. Since the country has exhibited neither a low nor a high tax effort index, this average level of taxation could be used as a 'preference'. And the objective of revenue generation should be fulfilled by broadening the tax base and rationalizing the tax rates so as to remove all tax related distortions.
3. Since tax effort analysis suggests where to begin in addressing a budget problem, the country should also consider its expenditure needs, alternative sources of finance and others.

And one important measure is that both governments, The Centre and Regional Governments, should pay special concern to collect taxes on time. This is because of the link between inflation and the budget deficit, or what is called the Tanzi-olivera effect. This means that as inflation gets higher and higher, the budget deficit gets worse. One reason for this is that in the presence of inflation, the value of the tax collected will be eroded. For example if the growth of the annual inflation rate is 100% and if taxes are collected at T period lag, say a year after, then the real value of taxes collected will be less than what was assessed - half of what was expected.

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## APPENDIX

**Appendix Table 1: Total Tax revenue, 1949 - 1996 (in millions of birr)**

Year	Total tax revenue	Year	Total tax revenue
1949	56.3	1973	537.1
1950	61.5	1974	589.8
1951	70.1	1975	613.3
1952	91.0	1976	855.9
1953	112.4	1977	938.8
1954	103.4	1978	1146.5
1955	108.5	1979	1298.2
1956	121.2	1980	1361.8
1957	123.8	1981	1436.4
1958	127.3	1982	1558.0
1959	116.0	1983	1731.5
1960	155.4	1984	1677.5
1961	174.0	1985	1876.3
1962	183.9	1986	2092.4
1963	321.8	1987	2317.8
1964	264.1	1988	2371.1
1965	287.3	1989	2158.9
1966	309.7	1990	2053.4
1967	315.5	1991	1618.3
1968	332.1	1992	2221.71
1969	371.8	1993	3006.86
1970	407.1	1994	3891.27
1971	433.2	1995	4741.29
1972	483.8	1996	5172.89

*Source:* Ministry of Finance, Planning and Research Department.  
*Note:* 1949 should read 1949/50, etc

Appendix Table 2: GDP at Current Factor Cost, 1960 - 1996  
(in millions of birr)

Year	GDP	Year	GDP
1960	2460.9	1979	8533.9
1961	2558.3	1980	9986.2
1962	2672.7	1981	10486.6
1963	2922.7	1982	11925.8
1964	3180.5	1983	10882.2
1965	3423.0	1984	13014.1
1966	3625.5	1985	13546.4
1967	3858.0	1986	14465.8
1968	4085.4	1987	14898.9
1969	4482.8	1988	15764.9
1970	4733.3	1989	16859.0
1971	4658.1	1990	19025.2
1972	5030.4	1991	19917.6
1973	5577.3	1992	25290.7
1974	5551.0	1993	26747.5
1975	5995.8	1994	32360.0
1976	6854.5	1995	36832.5
1977	7294.9	1996	39391.8
1978	8016.9		

Source: Ministry of Economic Development and Cooperation, National Accounts Department.

Note: 1950 should read 1960/61, etc

Appendix Table 3: Value of Import, CIF, 1946 - 1995 (in millions of birr)

Year	Import	Year	Import
1946	94.9	1973	448.2
1947	121.2	1974	586.0
1948	124.0	1975	613.1
1949	119.1	1976	736.7
1950	105.5	1977	810.9
1951	147.4	1978	1069.9
1952	161.9	1979	1174.5
1953	137.9	1980	1493.3
1954	160.1	1981	1526.6
1955	168.0	1982	1623.4
1956	157.1	1983	1813.4
1957	178.4	1984	1951.1
1958	193.6	1985	2046.4
1959	208.9	1986	2278.7
1960	219.3	1987	2279.5
1961	235.6	1988	2246.0
1962	257.3	1989	1972.2
1963	276.1	1990	2227.5
1964	307.6	1991	976.6
1965	375.7	1992	1987.8
1966	404.3	1993	3852.3
1967	357.7	1994	5650.8
1968	432.5	1995	7041.7
1969	388.3		
1970	429.1		
1971	469.6		
1972	435.6		

Source: Ethiopian Customs Authority.

Note: 1946 should read 1946/47, etc

Appendix Table 4: Value of Export, 1946- 1995 (in millions of birr)

Year	Export	Year	Export
1946	76.2	1971	310.0
1947	98.7	1972	377.0
1948	96.6	1973	494.9
1949	94.0	1974	547.3
1950	91.3	1975	448.7
1951	151.9	1976	572.7
1952	131.4	1977	687.7
1953	169.4	1978	614.5
1954	160.3	1979	863.6
1955	162.2	1980	878.5
1956	151.4	1981	782.6
1957	192.2	1982	836.0
1958	156.8	1983	832.5
1959	179.2	1984	861.8
1960	192.6	1985	691.7
1961	188.7	1986	961.3
1962	199.5	1987	767.3
1963	223.4	1988	871.7
1964	262.5	1989	935.0
1965	289.8	1990	613.9
1966	277.0	1991	390.4
1967	250.0	1992	523.4
1968	258.0	1993	1008.7
1969	292.6	1994	2062.3
1970	294.6	1995	20603.3

source: Ethiopian Customs Authority.

Appendix Table 5: Value of coffee, hides and skins exports, 1959-1995 (in thousands of birr)

Year	Export	Year	Export
1959	22587	1978	53792
1960	21660	1979	146072
1961	22612	1980	107963
1962	24665	1981	98335
1963	23602	1982	85256
1964	21947	1983	84121
1965	23662	1984	96161
1966	35647	1985	103979
1967	29837	1986	114449
1968	24915	1987	129128
1969	29158	1988	128402
1970	24484	1989	136499
1971	25760	1990	125805
1972	47594	1991	51890
1973	68569	1992	85713
1974	47117	1993	162398
1975	34270	1994	296081
1976	55410	1995	83371
1977	54832		

source: Ethiopian Customs Authority

Appendix Table 6: Value of agriculture at Current factor cost, 1960-1995 (in millions of birr)

Year	Value	Year	value
1960	1518.7	1978	3687.8
1961	1524.9	1979	3909.9
1962	1566.4	1980	4071.5
1963	1641.7	1981	4061.8
1964	1719.9	1982	4388.7
1965	1822.1	1983	4070.2
1966	1922.3	1984	3915.8
1967	2031.4	1985	4354.5
1968	2140.8	1986	4317.9
1969	2349.4	1987	4326.7
1970	2427.7	1988	4665.7
1971	2210.4	1989	4705.5
1972	2356.6	1990	5033.1
1973	2631.3	1991	4968.0
1974	2449.9	1992	5747.1
1975	2767.9	1993	5194.1
1976	3226.7	1994	6329.6
1977	3497.1	1995	7126.4

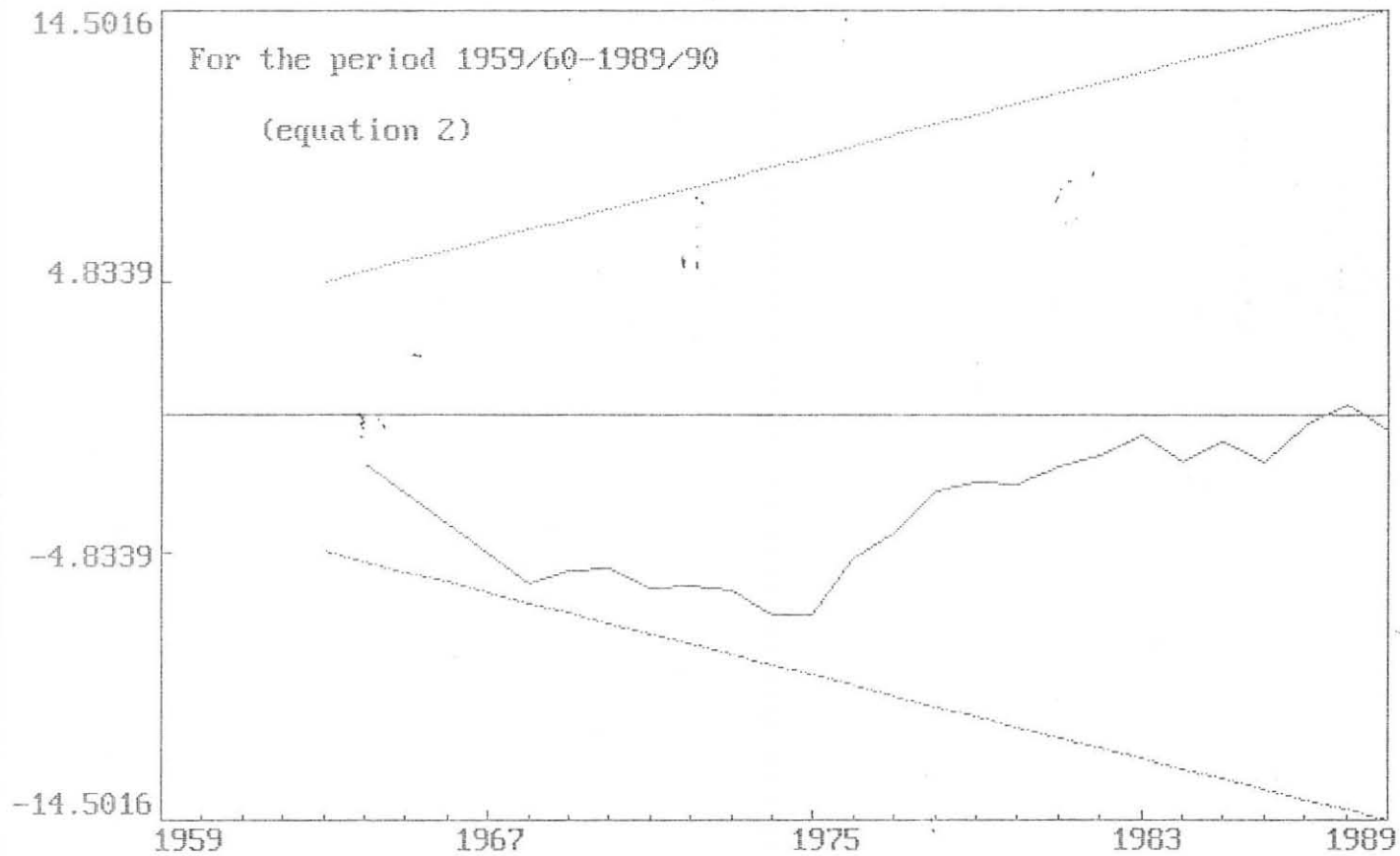
source: Ministry of Economic Development and Cooperation.

Appendix Table 7: Population of Ethiopia, based on reverse projection of the 1984 Population Census, 1950-1996 (in thousands)

Year	Population	Year	Population
1950	19182.9	1975	33127.4
1951	19569.8	1976	33958.3
1952	19964.5	1977	34853.9
1953	20367.2	1978	35773.0
1954	20778.0	1979	36716.4
1955	21197.1	1980	37684.7
1956	21648.1	1981	38762.6
1957	22108.7	1982	39871.4
1958	22579.0	1983	41011.9
1959	23059.4	1984	42185.0
1960	23550.0	1985	43349.9
1961	24072.6	1986	44654.8
1962	24606.9	1987	45958.7
1963	25153.0	1988	47305.3
1964	25711.2	1989	48696.1
1965	26281.8	1990	50132.6
1966	26893.9	1991	51616.5
1967	27520.2	1992	55117.3
1968	28161.2	1993	56899.4
1969	28817.1	1994	58721.4
1970	29488.2	1995	60584.5
1971	30175.0	1996	62506.7
1972	30877.7		
1973	31596.9		
1974	32332.8		

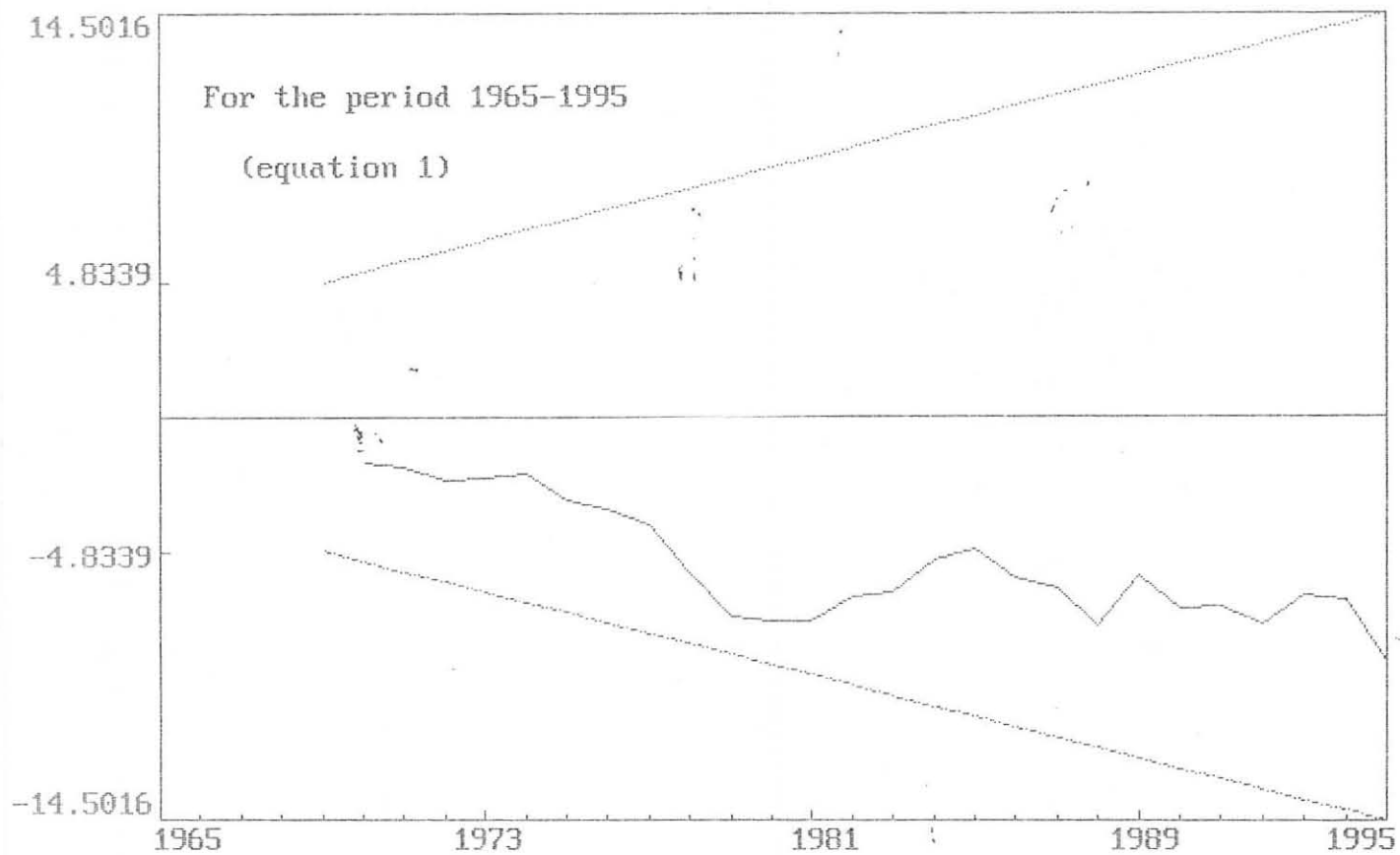
source: Central Statistical Authority.

### Plot of Cumulative Sum of Recursive Residuals



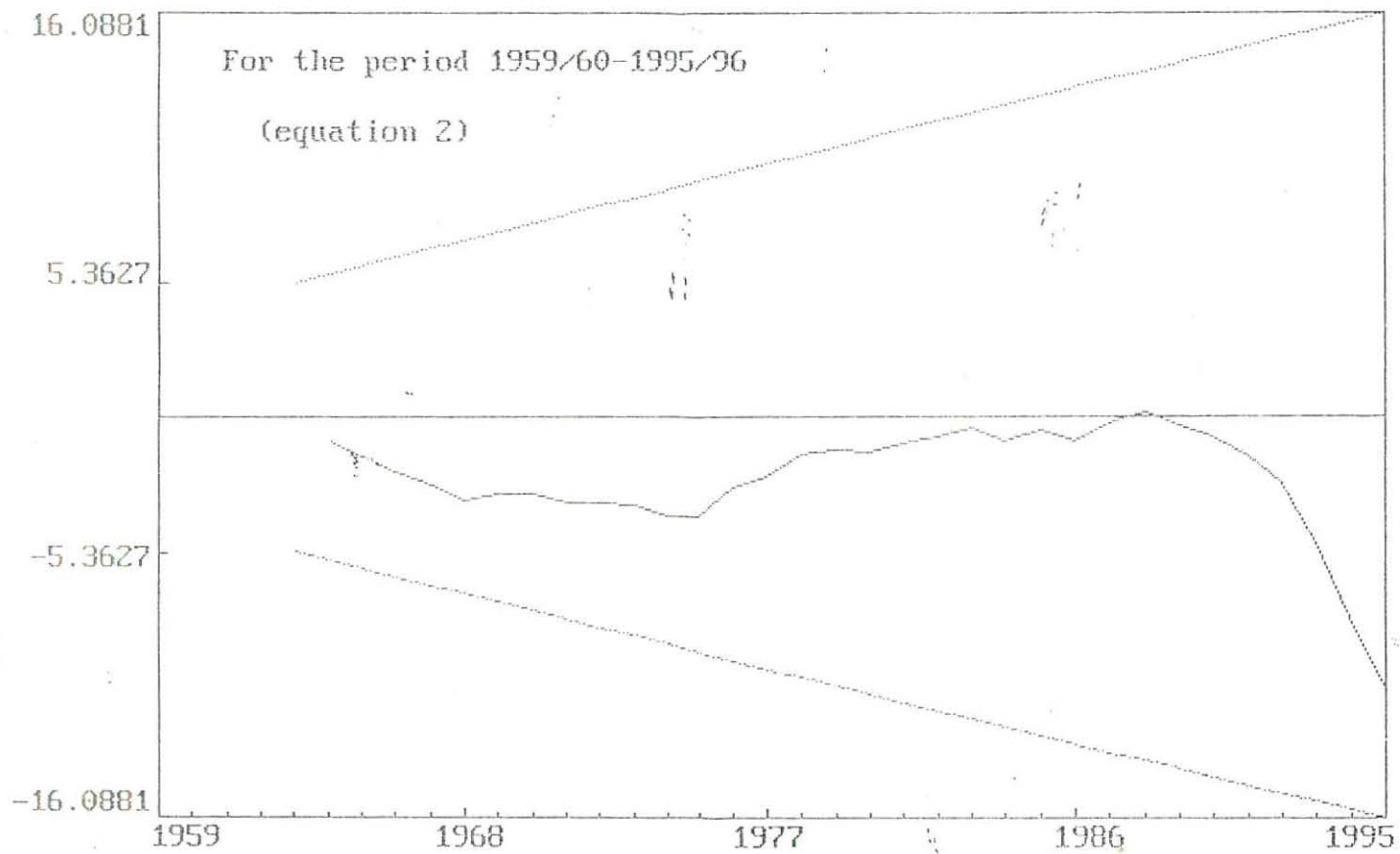
The straight lines represent critical bounds at 5% significance level

Plot of Cumulative Sum of Recursive Residuals



The straight lines represent critical bounds at 5% significance level

### Plot of Cumulative Sum of Recursive Residuals



The straight lines represent critical bounds at 5% significance level

## Declaration

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

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Signature: 

Place and Date of submission: A.A.U

June, 1998