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### **PROPERTY TAX REVENUE GROWTH UNDER INFLATIONARY CONDITIONS**

**THE CASE OF TANGA MUNICIPAL COUNCIL-TANZANIA**

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INFLATIONARY CONDITIONS**

**THE CASE OF TANGA MUNICIPAL COUNCIL-TANZANIA**

**A thesis submitted to the Institute for Housing Development  
Management (IHS) in partial fulfilment requirement for the award of  
Degree in Master's of Arts in Urban Development Management  
(Financing Cities in the Global Economy)**

By

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11<sup>th</sup> September, 2006

## **DEDICATION**

This is a dedication to my family especially my wife Constancia and our baby son Brian.

## DECLARATION

I, Itika David Mwangakala, hereby declare that, the contents of this thesis are a result of my own study and findings. To the best of my knowledge, they have never been presented as a thesis/dissertation for any diploma, degree or any other professional award in any Institute/College/University of higher learning

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## SUPERVISOR'S DECLARATION

This report has been presented as a thesis, in partial fulfilment requirement for the award of M.A. Degree in Urban Development Management (Financing Cities in the Global Economy) of the University of Erasmus, during the 2005/2006 academic year.

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Mwangakala, I.D.

11<sup>th</sup> September, 2006

## **ABSTRACT**

In many countries, property tax is the major source of revenues to local authorities. This is also true for Tanzania. In realization of this fact, the URT government and donor agencies have been spending considerable amount of resources to revamp property tax yield. Likewise, much of the researches have been initiated with view to explore the best practices to tap the full potential of property tax. Much of these initiatives have been focused on property tax reforms i.e. improving the fiscal cadastre, improving valuation and an emphasis on the need to improve property tax collection.

As much as these efforts are critical, none of these have been directed at ensuring that the tax yield resulting from tax reforms does not decline immediately after reforms are completed. These initiatives have not attempted to ensure that prevailing economic conditions – especially inflation, does not overtake property tax system. Consequently, despite considerable commitment of time and resources to revitalize property tax revenues, the property tax yield is fast dwarfed by economic reality, if the situation remains unfettered, the tax would become cost ineffective to administer. This study envisaged studying critical property tax administrative issues that could be reviewed in order to adapt property tax system to inflation. Based on the findings, the study aims at providing a primer on inflationary characteristics of property tax in Tanzania from which a further debate on the subject can be extended.

The scale of inflationary loss on tax revenues is so pervasive even to central governments especially in developing countries. Available literatures have ample quintessential cases illustrating the ramifications that rigid tax systems have on the outlook of governments' revenues. The scale of the problem of inflationary loss is even larger to most local government taxes. Of all local governments' local taxes, property tax is the most susceptible to inflationary corrosion. The findings of this study corroborate this argument. The study findings indicate that the share contribution of property tax revenues of TMC to total locally generated revenues even in nominal terms has been falling. This is a stark reality to those who argue that property tax takes an important role in local revenues. There are two main reasons; one is lack of frequent valuations or indexing which makes the tax base (in the valuation roll) as obsolete as the last valuation. Incidentally lack of frequent valuations has far reaching repercussions that any other property administrative components. Second is due to tenacious collection lags which help in dragging down property tax real revenues. It has been found empirically that property tax rates have limited impacts on property tax real revenues growth. In fact, property tax rates failure to impact on real revenues is attributed to the existing rates that are small, token and in economic terms unrealistic. To the contrary, while property tax real revenues have been declining, available indicators have been rising. The rental price index which can be taken as a proxy for property values has been steadily rising. Likewise real per capita GDP of Tanga region which may reflect taxpayers' real income has also been on the steady rise. It is desirable to adjust property tax system to become reactive to inflation, but not before existing prohibitive legislations governing property tax administration are amended.

## GLOSSARY

**BASE YEAR (BY):** The base year is a point of reference year representing a fixed price level, and is expressed as 1.000 (e.g. FY 2006 = 1.000)

**REAL GROWTH:** The real growth is the actual change in purchasing power between any two or more fiscal years. It is computed by converting all values or amounts to the same year (constant dollars/values) and then adjusting for increases/decreases that do not affect the purchasing power. Real Growth always implies a relationship between two or more time periods with a common base year. Real growth can be positive or negative.

**ASSESSED VALUE:** The value placed on taxable property by the assessor (valuer) for ad valorem tax purposes. The assessed value when multiplied by the rate will produce the amount of tax due. This is synonymous to taxable value.

**VALUATION ROLL (or simply ROLL):** The comprehensive property valuation register for tax purposes.

**FISCAL SPACE:** The room in a government's budget that allows it to provide resources for a desired purpose without jeopardizing the sustainability of its financial position or the stability of the economy.

**FISCAL GAP:** Is the gap between perceived service needs and financial resources

**REAL GROWTH:** Is the increase in revenue of property tax measured on real terms

**REAL REVENUES (INCOME):** The actual amount of goods and services that money revenues (income) can buy. When prices rise and tax revenues are fixed, the real revenues decline because they can not buy the same quantity of goods and services.

**NOMINAL REVENUES (INCOME):** The absolute amount of income earned by a person/organization.

**INFLATION:** A rise in the general level of prices. It is calculated using price indices-weighted averages of the prices of several products e.g CPI (Consumer Price Index)

**PROPERTY TAXES:** These are compulsory charges/levies that relate specifically to the ownership, occupation, or improvement of land or of land and buildings (McCluskey 1993, in Koyimbili M.) The tax may be based on land/site value, capital value or annual rental value (imputed or real) and are collected for use by local authorities.

**MINISTER:** Minister responsible for Local Governments

## LIST OF ABBREVIATIONS AND SYMBOLS

<b>BOT:</b>	-Bank of Tanzania
<b>BY</b>	-Base Year
<b>CPI</b>	-Consumer Price Index
<b>FY</b>	-Financial Year (UK) Fiscal Year (USA)
<b>GDP</b>	-Gross Domestic Product
<b>NBS</b>	-National Bureau of Statistics
<b>NCPI</b>	-National Consumer Price Index (Tanzania)
<b>NCREIF</b>	-National Council of Real Estate Investment Fiduciaries
<b>NORAD</b>	-Norwegian Agency for Development Co-operation
<b>PPP</b>	-Purchasing Power Parity
<b>REITs</b>	-Real Estate Investment Trusts
<b>RPI</b>	-Rental Price Index
<b>S.</b>	-Section
<b>TMC</b>	-Tanga Municipal Council
<b>T.Shs</b>	-Tanzanian Shillings
<b>UARA</b>	-Urban Authorities (Rating) Act, 1983
<b>URT</b>	-United Republic of Tanzania
<b>UK</b>	-United Kingdom
<b>US or USA</b>	-United States or United States of America
<b>ε</b>	-Elasticity of property tax revenues to taxpayers' real income
<b>\$</b>	-Dollar



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## CHAPTER ONE: RESEARCH BACKGROUND

### 1.0 Country Brief

Tanzania is a relatively large country with an area of about 945,087km<sup>2</sup> whereby 886,037km<sup>2</sup> is land and water is 59,050km<sup>2</sup>. It has a population of roughly 36.6 million people and a population growth rate of 1.9% per annum. It is also one of the politically stable democracies in the region. Notwithstanding country's abundant natural endowments and political stability, Tanzania is still one of the poorest countries in the world. In 2005, it recorded 6.8% real GDP growth rate, it had per capita GDP of a mere US \$ 330 (or US \$ 700ppp) and 36% of the population live below the poverty line<sup>1</sup>. Her economy is heavily dependent on agriculture which accounts for almost half of GDP, forms 85% of exports and employs 80% of the workforce.

### 1.1 Preamble

Rapid rate of urbanization and increasing unfunded mandate overstretches public service provision in most local governments in developing countries. The provision for such services is woefully deficient and yet the revenues of local authorities most directly affected have not usually increased commensurately (Bahl & Linn, 1992); Urban governments are often restricted in their revenue-raising mandate to revenue-inelastic sources such as property taxes, taxes, fees, service charges and even higher level *government transfers*! The tendency is the mismatch between urban governments' responsibilities to provide services, on the one hand, and their authority to raise revenues, on the other i.e. "*fiscal gap*".

Like many other local governments in the world, the revenues of local governments in Tanzania are lagging far behind urban authorities' real expenditure. As mentioned above, this is due to declining real revenues (due to rigidity of tax rates, service charges and tariffs), rapid rate of urbanization and increasing decentralization without complimentary increasing funding. Tanzania currency has a history of succumbing to serious inflation which in turn affects governments' real revenues as well as real personal incomes. The service provision costs are constantly surging due to burgeoning urban population; increasing local governments' mandate as a result of decentralization; rationalization of local governments' revenues sources and inflation which dents the purchasing power of local revenues. The situation results into '*fiscal gap*' which in turn undermines local governments' '*fiscal space*'. At times when local governments are grappling to exhaust new approaches of mobilizing their revenues, consideration of setting an inflation elastic tax is not a weird idea, and could prove equally resourceful in improving local governments' '*fiscal space*'. No stone should be left untouched and it is upon urban managers to try hard to exploit every opportunity that would maintain healthy local revenue growth. Local revenue mobilization strategies and practices should embrace the idea that inflation is part of public finance problem leading to inefficiencies in the tax

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<sup>1</sup>[www.worldbank.org/urban/upgrading/tanzania.html](http://www.worldbank.org/urban/upgrading/tanzania.html)

systems (de Gregorio, 2002). In other words the urban local authorities should not stifle with inflation on their revenue growth if they are to avoid being trapped into fiscal gap.

### 1.2 Research Questions

- Is there scope for improvement to make property tax revenues inflationary hedged?
- If there is scope to make property tax elastic to inflation, can the tax dispense the same real tax burden to taxpayers'?
- What is the real growth of Tanga Municipal Council property tax revenues?
- Which component of property tax administration is more susceptible to inflationary erosion than others? (Tax Rates/Valuation/Collection)

### 1.3 Research Problem

Urban authorities are privileged repository of most valuable real estate in many countries including Tanzania. Although they are not necessarily the owners of urban real estate, they have higher propensity to benefit from properties within their jurisdictions. The quality and quantity of properties within their jurisdiction are a reflection of respective urban wealth for which local authorities can capitalize. Property tax is the most visible tool of extracting this wealth in order to raise local revenues. Property tax is viewed as *the most stable of all local governments' revenues*<sup>2</sup>. Unlike other forms of tax revenues, theoretically it is presumed to be unsusceptible to inflationary revenues erosion, why? Because it is based on property values which tend to rise along with prices in the overall economy and can provide an effective hedge against inflation (*Imagine a case where property values depreciate with time!*). From real estate investment perspective, this is due to unique characteristic of properties, that properties' values are inherently hedged against inflation i.e. property values are always appreciating in tandem with inflation. Thus, if property values and property returns are rising above the rate of inflation and property tax is based on property values, it is imperative that real tax revenues should not decline. As such it is expected that the purchasing power of property tax revenues (property tax revenue real growth) can be steadily maintained over the long-run if the tax is properly administered.

*To the contrary, in Tanzania, unlike other forms of local governments' revenues, property tax revenues are exposed to inflationary erosion leading to negative real revenue growth.*

The inherent inflationary parity of real property returns has not been translated to steady property tax real revenues and consequently dampening urban local authorities' revenue growth mobilization efforts. Accordingly, statements reporting property tax revenues performance in nominal terms need to be qualified and property tax multi year records need to be inflation adjusted. It's deceitful to those coordinating revenue mobilization efforts to obliviously assume that they have increased annual property tax revenues while overlooking the fact that the ultimate yardstick of revenue increase should only be

<sup>2</sup> Unlike other local revenues, there is minimal intervention from central government and its justification has never been questioned.

gauged on the price of revenues. While it is relatively easier to overcome inflationary erosion in other forms taxes by regularly reviewing tax rates, it is not easier with property tax<sup>3</sup>. Attempts to maintain property tax revenues parity with the purchasing power of money must involve three main steps; first is setting of realistic property tax rates that reflect the real state of the local/national economy. However, property tax rates are a wide subject and are subject to local and national political influence that is not always easy to explain; Second, the regular re-valuation of properties in the valuation roll using appropriate valuation methods to create updated rateable values from which tax rates can be applied or by indexing property values at an appropriate index. The essence of all properties re-valuation is to capture property value increments<sup>4</sup> occurring between assessment periods and shore up local authorities' real revenues; Third, timely collection of tax revenues after billing date is critical if one has to contain corrosive effects of inflation on revenues. In this manner, unlike other forms of taxes, property tax if well structured is supposedly with some adjustments provide a cushion against inflation. In Tanzania, property tax is not responsive to prevailing economic conditions as a consequence, the effect of inflation significantly undermines the *property tax reforms* efforts<sup>5</sup> that have been undertaken to date and limits local governments' capacity to bolster property tax revenues. Thus if local governments' financial plans are based on tax revenues expressed in current values, they could be misled as their real revenues are latently being undercut by inflation.

#### 1.4 Hypotheses

- *Under existing conditions, property Tax Revenues can effectively be hedged against inflationary erosion*

The hypothesis will be affirmed if the following conditions are met;

- Δ It is possible to adjust tax rate (tax ratio), rateable value (Valuation Ratio) and collection efficiency within prescribed laws to catch up with inflation.
  - Δ At least average urban household real incomes are correlated to TMC property tax existing or perceived real revenues (affordability of elastic property tax).
- *Valuation Ratio (Value assessment component of property tax administration) plays a leading role in reducing real revenues of Tanga Municipal Council.*

<sup>3</sup> Property tax yield is a function of rateable value, tax rate and collection efficiency. The methods of establishing rateable values and determination of rates are statutorily determined.

<sup>4</sup> Normally properties appreciate in value with time therefore rateable values steadily surge with time, except under rare influences such as changes in the governments' land use plans. The dual effect of such changes create self-canceling effects, and thus to local governments, it's fairly reasonable to assume values will be rising at least in tandem with inflation.

<sup>5</sup> Tanzania had been pursuing property tax reforms since 1993 with view to raise the degree of exploitation of property tax.

The hypothesis will be proved positive if; rigid rateable values decrease more than proportionately the real revenues of Tanga Municipal Council relative to the other two components.

### **1.5 Research Objectives**

This study envisages achieving the following objectives;

- To establish the growth pattern of Tanga Municipal Council property tax real revenues for the period under study as contrasted to nominal revenues in the same period.
- To establish the degree of fiscal autonomy that Local Governments have at their disposal to address the corrosive effects of inflation specifically in property tax administration.
- To decouple the relative influence of property tax administrative components (rate fixing, value assessment and collection efficiency) on revenue growth under inflationary conditions.
- To establish whether it is possible to hedge property tax revenues against inflation.
- To examine whether inflation elastic property tax can maintain a steady tax burden in Tanga Municipality which measures affordability of an inflation elastic tax.
- To study problems and prospects of attempts to maintain real revenues from property tax over the long run
- On the basis of findings, make relevant recommendations

### **1.6 Motivation for the Study**

The decision to study property tax revenue growth in Tanzania (case study of Tanga) is rooted in the underlying benefits of property tax as local governments financing source and specifically from unique position of property tax in Tanzanian context. The motive behind this study is drawn from; firstly, the on-going “*local government reform agenda, which inter-alia envisages to increase local governments’ capacity in raising their own local revenues*” and secondly “*recent property tax reforms in Tanzania which aimed at exploiting full potential of property tax*”. Against this backdrop, the study intends to contribute towards achieving these goals by exploring theories and practice of property tax system that can overcome real revenue loss due to inflation and shedding some light on ways which to measure and stabilize real property revenues growth. The study intends to prepare a rudimentary primer on addressing property tax inflationary characteristics. The urge to fully exploit and limit real loss of existing local revenues sources is justifiable when considering that, recent central government attempts to unilaterally rationalize local governments’ revenues led to 40-50% loss of their own revenues (Odd-Helge, 2004a). Although the central government actions highlight the lack of fiscal autonomy to local governments it also underscores the essence of introducing effective and efficient local taxes. This research attempts to show that the debilitating effects of inflation on property tax real revenues is a reality and substantive to warrant consideration and adjustments to property tax systems.



### 1.7 Scope of the Study

This study has focused on one local government, **Tanga Municipal Council (TMC)** which is the local authority for city of Tanga. The study has examined and analyzed TMC property tax revenue growth over a period stretching eleven years (1995-2005). The study Base Year (BY) is 1994, one year after property tax reforms were initiated in the country. The timing of the study period has been chosen to fit with the date after which results of property tax reforms were supposed to have changed as a result of reforms. The study has dwelt on three property tax administration components and some relevant policies that affect property tax inflationary characteristics with view to explore the feasibility of establishing property tax system that can withstand inflationary conditions. To achieve this, the study has explored the available options to counter inflationary effects on real revenue growth on all of the three administrative components of property tax. The study has finally attempted to find any degree of correlation between taxpayers' real income growth and property tax revenue growth. The findings and conclusions of this study apply to TMC. However due to close similarity of property tax structure with other municipalities in Tanzania, the findings and conclusions can be inferred to all other Municipalities in Tanzania.

### 1.8 Relevance of the Study

This study has been attempting to study opportunities as well as challenges of creating nationwide property tax system that *“maximizes urban authorities’ property tax real revenues growth through deliberate manipulation of three key property tax administrative components and some policy issues that affect property tax real growth”*. The study could be of relevance to the following:

- The government of the URT, specifically the Ministry for local governments.
- Past and prospective donors interested in assisting the country to improve its local tax. For donors like NORAD and the World bank who financed property tax reforms may wish to comprehend what could done to capitalize on achievements of property tax reforms to which they assisted to implement.
- Urban Authorities in Tanzania wishing to adapt property tax to inflation.
- Urban managers, researchers and other interest groups
- Scholars and others wishing to study property taxation in developing countries, specifically in sub-Saharan Africa, this study could provide an archetypical situation.

### 1.9 Research Methodology

The study referred to different methodologies as shown below;

- Literature Review:** Textbooks, journals, published and unpublished researches, internet, and relevant legislations on property tax administration were sought and referred in the process of developing research concept, identifying relevant theories, positioning the study within the existing and acceptable body of knowledge on the subject and identifying the any existing gap between this study and previous researches on the same subject.

- ❑ **Data Collection:** The researcher has gathered primary data through direct interview and sifting through – Tanga Municipal Council (TMC) property tax records, National Bureau of Statistics (NBS) publications, Bank of Tanzania (BOT) publications and relevant legislations governing property tax administration in Tanzania. With exception of legislations, most of the data gathered has been quantitative in nature forming the inputs for analysis of the study.
- ❑ **Data Analysis:** Much of the analysis of data was primarily converting amounts expressed in current prices to amounts expressed in base year constant prices. Comparison to various selected indicators was made examine the relative performance of property tax system.
- ❑ **Report Writing:** This report is in its present form is a result of series of written drafts and consultations made with the supervisor. Moreover, intermediate presentations' comments and criticisms were also taken as input when writing this report.
- ❑ **Review of the Report**

### **1.10 Limitations of the Research**

The study encountered some problems specifically in the type and data format that was being sought. These were as follows;

- ❑ The exact number of properties maintained in valuation roll the throughout the period under study could not be provided. Consequently it was not possible to isolate changes in the valuation roll caused by changes in the number of properties in the roll.
- ❑ The timing of payments of due taxes, corresponding penalties and arrears could not be established rendering impossible to precisely examine the impacts of collection lags.
- ❑ Some relevant TMC local indicators like taxpayers' income and TMC rental price index could not be obtained instead data at national level was used. Therefore it is possible there could be variations if TMC data were used.

### **1.11 Data Quality**

The data quality is gauged in its validity, reliability and objectivity as shown below;

#### **1.11.1 Validity**

The study identified the subjects which should be measured. It further explored various literatures to determine the conventional and acceptable normative measuring methodologies. Thus, the manner on how the subjects were to be measured was ascertained by different theories and empirical cases in the referred literature. This provided the basis of reference during data collection and analysis. It is assumed that this is the best way to maintain a steady coherence on measuring instruments that are in conformity with the research design.

### 1.11.2 Reliability

The study based on normative measurements acceptable in the field of study, pertinent data from the case study was collected and using the methods and theories already accepted in the field of study to analysis of the data was made. Where it was not possible to use exact measuring instruments already acknowledged in the field, close substitute improvised method was used to achieve the same objectives. It is deem that by using those measuring instruments consistency is maintained.

### 1.11.3 Objectivity

This study is based on quantitative analysis of data. The author data collection methodology has minimal influence on the data quality.

### 1.12 Definition of Operational Constructs

For the purpose of this research Property Tax Administration (Components) is strictly limited to the following items in a manner in which they are defined;

**Tax Ratio:** The “rate struck” for taxing jurisdiction. This measures the tax amount per value of the property that is to be paid as tax. The ratio (or tax rate) is normally determined through the annual budget process.

**Collection Ratio:** Generally, it is the tax revenue collected over the total tax liability which has been billed for that year. This measures the collection efficiency. The collection ratio is effected by the collection of both current liability and tax arrears (i.e., enforcement efficiency) For the purpose of this study, Collection Ratio will be confined to the timing of property tax payments and the amount of overdue property tax bills. The study will not attempt to explain other aspects related to collection efficiency such as billing process, enforcement for compliance etc.

**Valuation Ratio:** The value on the valuation roll divided by the real market value of properties on the valuation roll. This measures the accuracy of the property valuation level. For the purpose of this research, valuation ratio implies total rateable/taxable value of all properties within the jurisdiction of Tanga municipal council.

### 1.13 Research Variables and Indicators

**Table 1: Research Variables and Indicators**

	Research Variable	Indicator(s)
1	<b><u>Scope of Improvement</u></b> <i>Is there a scope for improvement to make property tax revenues inflationary hedged?</i>	Provision of existing legislations on flexibility of property tax rates Statutory and (technical) feasibility of indexing property values to some form of indexing that moves in tandem with Inflation Adequacy of penalties for late payment to compensate for real loss of value of revenues due to inflation*

2	<p><b><u>Real Tax Burden</u></b>  <i>If there is a scope to make property tax elastic to inflation, can the tax dispense the same real tax burden to taxpayers'?</i></p>	<p>Comparison between TMC property tax real revenues and Per capita GDP of Tanga residents</p> <p>Comparison of tax rates and penalties perceived to be adequate to cover up for inflation to taxpayers' real income (per capita GDP) trends.</p>	
3	<p><b><u>Revenue Growth</u></b>  <i>What is the real growth of Tanga Municipal Council property tax revenues?</i></p>	<p>The difference between property tax revenues expressed in current values and at constant 1994** values (<i>after isolating additional properties added into a valuation roll between 1995-2005, excluding impacts of changes of tax rate between 1995-2005 and excluding annual tax arrears from annual property tax revenues</i>).</p>	
4	<p><b><u>Susceptibility to Inflation</u></b>  <i>Which component of property tax administration is more susceptible to inflationary erosion than others? (Tax Rates/Valuation method/Collection)</i></p>	Valuation roll (Represented by billing) Vs Inflation	
		Collection Efficiency	Collection lags, amounts uncollected
		Penalties Vs Inflation	
		Tax rate Vs Nominal/real revenues	

\* The Question of ability to enforce payments has been exhausted by other researches and will not be examined by this study.

\*\* The base year adopted by this study

### 1.14 Thesis Organization

This report is divided into five main chapters.

The first chapter introduces research questions, research problem, hypotheses and research objectives. It further divulges the motivation of the study and the scope within which the study will be confined. Finally, it discusses the research methodologies, definition of major concepts and a concluding remark.

In the second chapter, the study profiles some available literature on the subject. The chapter briefly examines previous studies on property tax in Tanzania to identify the missing link. Then it discusses basic concepts about inflation and provides quintessential cases of inflationary effects on real tax revenues. In the second part the study explores property inflation hedging characteristic and whether it can be extended to property tax revenues. It further provides methodological approaches to tie property tax to inflation by highlighting how each of the three property tax administrative components impacts on revenue growth. The chapter ends up by illustrating ways of testing whether inflation reactive tax system would proportionately dispense real tax burden.

The third chapter provides data on factors leading to inflation in Tanzania, inflation and CPI outlook, then property tax revenues of TMC and lastly Tanga region indicators.

The fourth chapter, using theories discussed in chapter two analyzes data provided in chapter three to empirically validate the arguments raised in chapter one. The chapter analyzes the general performance of property tax in TMC before embarking on analyzing the role of individual property administrative components to inflationary characteristics of TMC revenues. The chapter simulates simple indexing scenario to examine how the tax system would perform and whether indexed tax could be afforded by taxpayers. The chapter ends up by exploring the existing statutory powers/limitations of adjusting property tax system to inflation.

The last chapter is about recommendations, areas for further studies and an overall conclusion.

### ***1.15 Conclusion***

This study is meant to provide a treatise on: *firstly*, measurement of property tax revenue growth under inflationary conditions by analysing the purchasing power of property tax revenues over time; *secondly*, identifying property administration aspects that seriously influence property tax inflationary characteristics; *thirdly*, on how to adjust property tax system so that it becomes inflation elastic; *fourthly*; testing whether existing or perceived inflation adjusted property tax uniformly dispenses the real tax burden; *Fifthly*, exploring the legal/statutory powers and limitations towards adapting property tax to inflation. In many developing countries inflationary effects on tax revenue growth is stifled with despite the fact that their economies are frequently dogged by high inflation. Although it could be said that property tax in developing countries is already shrouded in other major drawbacks, it is by no means that inflationary revenue loss is an inferior drawback. It is expected that the study will be able to ameliorate previous studies on property tax reforms by measuring the scope of the problem and according proper significance the urge to conceive inflation elastic property tax.

## CHAPTER TWO: THEORETICAL BACKGROUND TO INFLATION AND PROPERTY TAXATION

### 2.0 Introduction

This chapter provides theories from which this study emanates. The chapter provides definitions of main concepts to be used in the study as found in different literature. The chapter further provides theoretical arguments from various literatures showing methodological approaches to achieve the research objectives and answers to research questions discussed in research background in chapter one. Where possible, the chapter provides empirical studies from various literatures to elaborate the application of various theories in practical situation. The chapter is divided into broadly three main parts: First part is about *inflation*, definition and main concepts of inflation and measurement of inflationary impacts on incomes/revenues fitting within the scope of this study, and impacts of inflation on tax revenues in which case examples are provided. The part also highlights how to use anticipated inflation into revenue growth planning and ends with an illustration of the significance of inflation adjustments into tax revenues. The second part is *properties and property tax* which is subdivided into; property investments and inflation hedging characteristics, historical background of property tax, property tax administration – especially components that are pertinent to the scope of this study i.e. valuation ratio, collection ratio and tax ratio). The last part is about *inflation elasticity of property tax versus affordability* or likelihood of sustained payment of tax. The chapter ends with a *conclusion*.

### 2.1 Related Literature

There is no study known to the author that provides an exclusive treatise of property tax revenues growth under inflationary conditions in Tanzania or elsewhere. Studies on property tax in Tanzania are scanty and those that were done focused on discussing property tax in an entirely different context. This is by no means that they are completely irrelevant; to the contrary they form the preliminary literature support from which this study is set to complement. These include; Property tax practices in Tanzania have been expounded in detail by Kelly and Masunu (2000). They have discussed that the urge to undertake property tax reforms was parallel to the Local Government Reform Agenda which inter-alia intended to shore up local authorities fiscal capacity. The authors approach to property tax reforms hinges on the formula that:  $\text{Tax Revenues} = \text{TB} \times \text{TR} \times \text{CVR} \times \text{VR} \times \text{CLR}$ , where TB – Tax Base, TR – Tax Ratio, CVR – Coverage Ratio, VR – Valuation Ratio and CLR – Collection Ratio. The authors have argued that the most critical factors to improve property tax were coverage ratio, valuation ratio, tax ratio and collection ratio. According to the authors, all these factors are basically administrative in nature and can greatly enhance local revenue if correctly administered. The authors have further articulated property tax reform experience in Tanzania and concluded by highlighting lessons learned from property tax reforms in Tanzania. The authors indicated that the method of property valuation for taxation purposes is replacement cost only. Their main line of argument is that replacement cost method is used only because of thin property markets in Tanzania.

McCluskey et al, (2003) have also contributed in-depth discussion on the lessons learned from experience of undertaking property tax reforms. They have profiled over broadening of tax base, improving fiscal cadastre, property values' assessment and cost implications. They have also emphasized the need to reciprocate public service provision to taxes (including property tax) and constraints pegging down improvement of property tax performance. Moreover, they dwell deep discussing on lessons from experience as; significance of political will and support; taxpayer education; consideration of property tax as an investment; sustainability; capacity building and capability; proactive property tax policy; need of setting '*realistic property tax rates*'; valuation and collection as the driving forces; the carrot and stick strategy; valuation strategy; collection efficiency; valuation standard; coverage of taxable properties and the need to efficiently and effectively use ICT in property tax administration. The authors have provided a rich discussion on what can be done to improve property tax yields in Tanzania.

Likewise, Bird & Slack Eds. (2004) have contributed to the discussion on property tax administration. The authors have discussed the role of property tax in raising local authorities' revenues. In their introductory part they have detailed the global disparity of property tax practices and briefly discussed what property tax can achieve. They have attempted to make global comparison to property tax approaches albeit on rather uneven comparison. Kelly, R. (in Bird & Slack, 2004) has encapsulated the experience of property tax in Tanzania from property tax role, base, rates, administration and property reform experience in Tanzania.

The authors above and many others have not attempted to position the effects of inflation on property tax revenues. Apparently because of other serious property tax shortcomings in Tanzania, studies in tax real revenue growth are relegated to other less serious issues that need no immediate response. Most of the studies on property tax done in Tanzania highlight the statutory provisions for property tax or historical background of property tax or property tax administration practice in Tanzania or lately property tax reforms in Tanzania. It is the opinion of the author that despite the commendable contributions of previous authors on the subject of property tax administration, it also vital that the performance of property tax is analyzed in a different context i.e. flexibility to adapt to inflation. Thus the point of departure of this study from previous studies is the its emphasis on introducing unconventional measurement property tax performance in Tanzania i.e. evaluating property tax revenues in retrospect on consistent measure. Furthermore, the study attempts to assess key fundamental features on property tax on how they behave and impact on its inflationary characteristic and how they can be manipulated to perform consistently even under inflationary conditions so archetypical to Tanzanian economy.

## **2.2 Inflation, Definition and Measurement**

This is a situation in a country whereby there is a general rise in the level of prices or the percentage of annual increase in general price level (Samuelson & Nordhaus, 2005. pp 439, 741). Inflation is caused by one or a combination of the following factors; expansionary policy of the central bank (money supply), exchange rate depreciation,

budget deficit <sup>6</sup>(Laryea & Sumalia, 2001, pp 4; Thirsk, 1997, pp 169) and small real GDP growth (for further discussions refer to Tanzania economic indicators in the next chapter).

Inflation does not imply that all prices are rising at the same time, price rise of goods and services may differ between different types of goods and services depending on the differences in the magnitude and direction of changes in demand and supply in different market ([US] Army Budget Office, 2002).

Price Index (Indices) is (are) defined as a measure of the average level of prices (Samuelson & Nordhaus, 2005. pp 439) or multiplication factors used for compounding inflation amounts from a given base year over a period of time into the future (Army Budget Service [US], 2002). A price index is a weighted average of prices of a number of goods and services which measures the rate of inflation and the purchasing power of money. The formula for calculation the rate of inflation is given as;

**Box I**

$$\text{Inflation Rate (in year } t) = (\text{price level (year } t) - \text{price level (year } t-1)) / \text{price level (year } t-1) * 100$$

There are several types of price indexes such as **Consumer Price Index (CPI); GDP Price Index, Producer Price Index (PPI)** etc. As it was shown earlier, not all prices move at the same rate in an economy. Some price fluctuations are more volatile than others e.g. price of food and fuel-petrol<sup>7</sup>. For this reason, the use specific type of price index gives a more true calculation of inflationary conditions than a random use of price index/indices. The common index is the Consumer Price Index (CPI) which measures the cost of a market basket of consumer goods and services relative to the costs of that bundle (goods and services) during a particular year (Samuelson & Nordhaus, 2005). The rate of inflation is categorized into three broad types<sup>8</sup>;

*Table 2: Types of Inflation*

Level of Inflation	Low Inflation	Galloping Inflation	Hyperinflation
Classifying criteria	Annual rate of inflation is <10%, at this level economists believe the purchasing power of money is virtually stable	Or very high inflation where the rate of inflation is >10% and < 1,000%	Extremely very high rate of inflation usually inflation rate is > 1,000%
Example	Many countries have inflation hovering between these margins	Iraq has an inflation figure of around 85% in 2006*	Zimbabwe has recorded an inflation of 1,000% this year from 585% in 2005*

\*The Wall Street Journal (Thursday, 18<sup>th</sup> May, 2006)

<sup>6</sup> It is argued that persistent financing budgetary deficit by borrowing from the central bank and instead of fiscal sources or borrowing from externally exacerbates inflationary conditions (Brakman et al, 2006)

<sup>7</sup> To understand true extent of inflation, economists prefer to separate between inflation of volatile goods and services and core inflation. “Core inflation excludes energy and food prices to give economist a better picture of how other prices are acting”. The Wall Street Journal (Friday, 16-18<sup>th</sup> June, 2006).

<sup>8</sup> based on Samuelson & Nordhaus categorization



**Base Year (BY):** The base year is a point of reference year representing a fixed price level, and is expressed as 1.000 (e.g. FY 2003 = 1.000)

**2.2.1 Real Growth:** The real growth is the actual change in purchasing power between any two or more fiscal years. It is computed by converting all values or amounts to the same base years (constant dollars) and then adjusting for increases/decreases that do not affect purchasing power. Real growth always implies a relationship between two or more time periods with a common base year. Real growth can be positive or negative (decline in the purchasing power of income/revenues after inflation has been factored out from the base year). However, before converting care has to be taken to isolate all increase/decrease in amounts that do not affect inflation<sup>9</sup>.

### Box II

$$\% \text{ Real Growth} = (\text{Current Year Constant \$} - \text{Prior Year Constant \$}) / \text{Prior Year Constant \$}$$

### Box III

**Example:**

The FY 2003 Army WTCV budget request was \$ 2,249million and the FY 2002 WTCV budget was \$ 2,178million. The total increase from FY 2002 to FY 2003 would be \$ 71million [\$ 2,249 (FY 2003) - \$ 2,178 (FY 2002)] or 3.2% (71m divided by 2,178m). \$ 71m increase does not reflect the real increase due to reduced purchasing power of the dollar in FY 2003 compared to FY 2002. To find the real growth in dollars and percentage for WTCV from FY 2002 to FY 2003, FY 2002 current dollars have to be inflated to FY 2003 constant dollars before comparison is made.

(CPI indices for FY 2002 and FY 2003 are 1.0059 and 1.0236 respectively)

FY 2003 Constant Dollars (\$) = (2,178) (1.0059/1.0236) = \$ **2,216**

Then: Calculate the amount of real growth.

$$\begin{aligned} \text{I.e. Real Growth Amount} &= (\text{Current Year Constant \$} - \text{Prior Year Constant \$}) \\ &= (\$ 2,249 - \$ 2,216) \\ &= \mathbf{33\text{million}} \end{aligned}$$

And percentage Real growth = (Current Year Constant \$ - Prior Year Constant \$) / Prior Year Constant \$  
Percentage real growth = (33m) / 2,216 = **1.5%**

Thus when inflation is factored out of the comparison, the real growth of 1.5%, which is considerably less than the 3.2%. The 3.2% only compares current \$ changes between years.

**2.2.2 Constant Values (Dollars):** These are un-inflated dollars, which measure the value of purchased goods and services in terms of the price level in a given base year. Constant dollar is the most appropriate way to evaluate dollars from year-to-year because the value of the dollar changes over time – whether the dollars are future projections, actual appropriations, or obligations. Constant value (dollar) analysis is done by adjusting current dollars with a price index that relates the value of the dollars to a fixed point in time (a base year). The term “FY XX constant values (dollars)” is used when amounts do not contain any adjustments for inflationary changes that have occurred prior or after the base fiscal year. All

<sup>9</sup> In case of property tax, isolating the increase or decrease of nominal revenues due to additional properties in the valuation roll, changes in the tax rate prior to converting to real revenues.

fiscal years preceding the base year are adjusted (inflated) so that amounts are in base year (FY XX) values (dollars). All fiscal years after the base year are deflated so that the amounts are in base years values (dollars).

**2.2.3 Current (Values) Dollars:** The cost in current values (dollars) is the dollar value of goods and services in terms of the prices and estimated inflation at the time of the purchase. Current values (dollars) are used when fiscal year amounts contain all increases needed to cover inflation and those price increases occurred or expected to occur during the duration of period under scrutiny.

In the **Table 3** below, the author analyzes inflationary impacts on police patrol expenditures of the city of Keystone, USA. Although these are expenditures and not revenues they are equally affected by inflation and corresponding measurement is the same. Firstly the expenditure amounts expressed in current figures are listed. Then relevant price indices in respective fiscal years are sought, in this case Implicit Price Deflators (IPD). Using the formula given in the **Box IV**, conversion is made of current expenditure amounts into constant expenditure amounts to 1997 Base Year. Based on the following conversion formula;

**Box IV**

$$\text{Current Dollar Revenues or Expenditure} \times \frac{\text{Base Year IPD}}{\text{Current Year IPD}} = \text{Current Revenues or expenditures in Base Year Dollars (Constant Dollars)}$$

**Table 3: Police Patrol: Positions and Expenditures, City of Keystone**

	FY 1997	FY 1998		FY 1999	
		Current Amounts	Constant Amounts*	Current Amounts	Constant Amounts*
Implicit Price Deflators - IPD (%ge change from previous year)	102.06 (2.06%)	100.00 (2.24%)		97.81 (-)	
Salaries & benefits	1,157,380.00	1,296,114.00	1,268,521.00	1,406,058.00	1,340,516.00
Supplies	63,200.00	65,940.00	64,536.00	67,950.00	64,783.00
Other services	64,572.00	63,605.00	62,251.00	29,830.00	28,440.00
Maintenance	42,500.00	46,708.00	45,714.00	49,446.00	47,141.00
Capital	145,980.00	123,576.00	120,945.00	132,551.00	126,372.00
<b>Total</b>	<b>1,473,632.00</b>	<b>1,595,943.00</b>	<b>1,561,967.00</b>	<b>1,685,835.00</b>	<b>1,607,252.00</b>

Source: Ammons, D.N. (2002)

\*Expressed in 1997 Base Year.

In both 1998 and 1999 fiscal years, real expenditure on police patrol almost declined in all categories of expenditures. Thus despite the fact that USA has one of the lowest inflation rate in world (around 2%) still when revenues or expenses are corrected for inflation it is found that there is significant decrease of amounts.

### 2.3 Impacts of Inflation on Tax Revenues

The effects of inflation on taxation can well be understood from the economic impacts of inflation in general i.e. “*income and wealth re-distribution*” (Samuelson & Nordhaus, 2005, pp 673). During inflation, income and wealth re-distribution is achieved through reduction of real liability on part of debtors from creditors where a liability is expressed in nominal terms. On similar lines, inflation on taxation results into reduction of real tax liability on part of tax payers. The result is that the purchasing power of tax (including property) revenues is accordingly reduced and distorting tax performance where revenues are expressed in current values. If public service offered by governments is treated like all other goods and services whereby tax is its price, then inflation inelastic tax is not a good measure of value of public services.

Can the effects of inflation be seen on tax revenues? Are there examples of inflationary impacts on tax revenue growth? The impacts of inflation can not be overemphasized as it negatively influences on tax systems in general (Thirsk, 1997) including property tax. Thirsk further emphasizes that, among other things, inflation in un-indexed tax systems tends to create a haphazard pattern of effective tax rates in the economy.

**Table 4: Inflationary Erosion on Tax Bases in Bolivia**

Inflationary Erosion on Tax Bases		
	Real Tax Yields (1980 Bolivianos)	
Tax Base	1979	1984
Alcoholic beverages	42,739.00	6,487.00
Beer Consumption	651,040.00	158,452.00
Cigarettes and Tobacco	369,105.00	62,448.00
Enterprise Profits	942,367.00	258,947.00
Personal Income	1,121,330.00	260,910.00
Sales (Value Added)	740,198.00	194,101.00
Service Tax	234,408.00	67,894.00
Soft Drinks Tax	11,712.00	10,775.00
Stamp Taxes	488,110.00	84,578.00

Source: Thirsk, 1997

In the **Table 4**, he illustrates the effects that inflation had on real tax yields in Bolivia between 1979 and 1984. The Table shows Tax revenues in 1979 and 1984 after inflation is factored out taking 1980 as a **Base Year (BY)** i.e. bringing 1979 & 1984 Current Bolivianos to 1980 Constant Bolivianos. Overall, all taxes exhibited significant (*negative*) revenue growth. Some taxes declined several folds the original value e.g alcoholic beverages tax and stamp tax real revenues dwindled more than 7 times and 6 times respectively. Thirsk ed. (1997) attributes the decline in real tax revenues to “*collection lags (Oliviera-Tanzi effects) combined with inadequate penalties for late payments or even non payments of taxes*”. Other reasons linked to a decline in real revenues were tax rates which were set in nominal terms and during inflation were not timely adjusted to compensate for the falling price of revenues.

Another example of inflationary erosion on real tax yields is given by Gil-Diaz & Thirsk (in Thirsk ed., 1997) from Mexico. In the **Table 5** it is noted that there is a almost a negative correlation between the rate of

**Table 5: Effects of Inflation on Tax Revenues in Mexico, 1980-1988**

	Annual rate of inflation (percent)	Tax revenue loss from inflation (percentage of GDP)
1980	29.7	0.41
1981	28.6	0.40
1982	98.8	1.04
1983	80.7	0.88
1984	59.1	0.68
1985	53.3	0.73
1986	105.7	0.80
1987	159.1	0.90
1988	51.7	0.40

Source: Thirsk, 1997

inflation and real tax revenues which are measured as a percentage of GDP. The highest rate of growth of inflation was recorded between 1981 and 1982 whereby inflation grew from 28.6% to 98.8%. Accordingly, real Tax yield as percentage of GDP dropped by 1.04%, the highest fall in real tax revenues for the period between 1980 and 1988. Similarly, the smallest rate of inflation (in this case deflation, if assuming 1980 is the base year) was recorded between 1980 and 1981. In the same period, tax revenue loss was a mere 0.40% of GDP.

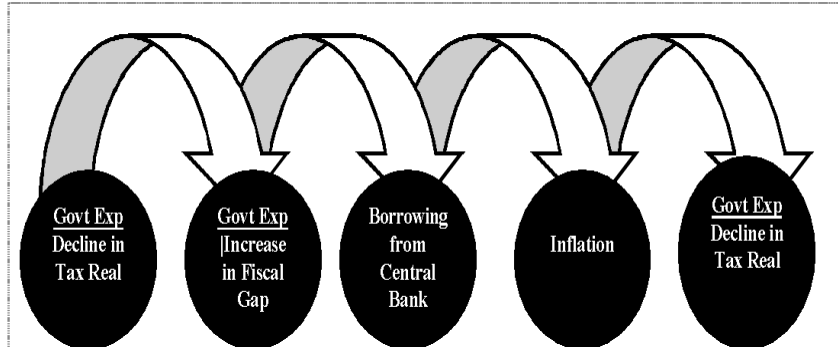
At national level, the decline in tax revenue yields leads into a fiscal gap or exacerbates fiscal gap problems. If the national government in attempts to offset fiscal gap resorts to borrowing from the central bank in lieu of borrowing from foreign lenders, it further weakens the macro-economic stability which in turn increases the rate of inflation, and further erodes real tax yields, causing even more fiscal gap. Thus for a national government there is a risk of slipping into budget gap –inflation- decline real tax yield vicious cycle that they may find difficult to disentangle without foreign intervention. Thus examples given above emphasizes on the significance of taking into account the role of inflation when designing taxes especially in countries sustaining frequent high inflation rates (Refer to **Figure 1**). But even in countries sustaining low level of inflation, still inflationary erosion of tax revenues is substantial (Refer to **Table No. 3**).

According to the Wall Street Journal (18<sup>th</sup> May, 2006), inflation in Zimbabwe has reached 1,000% in 2006 from 585% in 2005.<sup>10</sup> It is hard to postulate how the government can continue to provide public services under such conditions given that it is unlikely that property tax system can cope up with high rate of inflation like hyperinflation<sup>11</sup>.

<sup>10</sup> Zimbabwe's inflation is 12 times more than Iraq the world 2<sup>nd</sup> highest inflation!

<sup>11</sup> While economies can survive under galloping inflation, nothing good can be said about prices (and economies) under hyperinflation.

**Figure 1: Vicious Cycle; Inflation-decline in real Tax yield-fiscal gap- central bank borrowing**



Source: Author (2006)

### 2.4 Inflation and Revenue Growth Planning

Inflation not only distorts records of revenues performance in previous years, it also may distort future tax revenue growth plans and future budgets. If inflation is anticipated, it can well be taken into account in setting targets for future tax revenue growth<sup>12</sup>. In the **Table 6** below, a hypothetical example is given to illustrate how tax authorities could maintain real revenues over time.

**Table 6: Inflation Rates and Factors**

Financial Year (FY)	06	07	08	09	10	11	12	13	14
Inflation Rate		15%	15%	15%	15%	15%	15%	15%	15%
Deflator	1.000	1.1500	1.3225	1.5209	1.7490	2.0114	2.3131	2.6600	3.0590
Revenues	2m	2.3m	2.645m	3.0418m	3.498m	4.0228m	4.6262m	5.32m	6.118m

Source: Author (2006)

In the table above, tax authorities anticipate an annual inflation rate of 15% from 2006 to 2014. Assuming the base year is FY 2006, the authorities may choose to set tax structure that will maintain the value of current revenues (US \$ 2 million) from 2006 to future FY 2014. In that case, the real amount of tax revenues to be raised are shown by deflated amounts whereby it is obliged to raise US \$ 6.118m in FY 2014 from its taxes if the price of revenues (purchasing power of revenues) has to be maintained relative to tax revenues in FY 2006<sup>13</sup>. Tax authorities may adjust tax rates, improve collection efficiency, and update property values or index by an appropriate rate or a combination of any of these measures to achieve the targets.

### 2.5 Relevance of Inflation Adjustments

The question is why should governments worry about adjusting property tax revenues (or any other revenues) to inflation? Thus, in order to have a clear understanding of a multi

<sup>12</sup> Price increases can be anticipated or un-anticipated in which case there is anticipated and un-anticipated inflation (Samuelson & Nordhaus, 2005, pp 672)

<sup>13</sup> Objectives will be achieved assuming all other factors remain unchanged.

year property tax (or any other tax) performance it is important that government should precisely measure the amounts with the same scale. If tax performance is measured in terms of monetary amounts or revenues raised, and the value of these amounts is changing due to inflation, its hard to get any fair and meaningful results by simply relating revenue amounts expressed in current values over the number of years. Samuelson & Nordhaus, (2005) describe this more interestingly; “*who would want to measure things with rubber yardstick – one that stretches in your hands from day to day – rather than a rigid and invariant yardstick?*” Adjusting figures to constant dollars in such comparison permits a more reasonable evaluation of fiscal trends (Ammons, D.N., 2002). Thus revenue growth in real terms is one of the four important measuring criteria for a successful property tax<sup>14</sup> (Keith 1993, pp 67).

## **2.6 Properties and Property Tax**

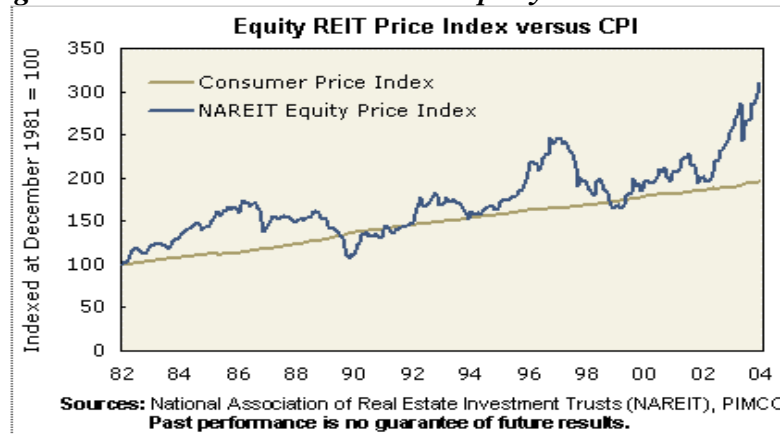
This section discusses two key issues; first available literature support to prove that properties/real estate (especially property investments) are inflationary hedged. From this notion, then how this unique property character relates to property tax revenues? How are these links behaving to influence property tax inflationary characteristics?

### **2.6.1 Property Investments and Inflation**

Property investments are widely known to provide a hedge against inflation. Has this argument ever been proved empirically? Brueggeman and Fisher (1997) have compared the relationship between real estate performance (*returns*) and *inflation*. The authors went further into establishing whether real estate returns exceed the rate of inflation. To this end they compared special real estate vehicles returns to NCREIF indexes and CPI. Their findings showed that real estate indexes exceeded the rate of growth in the CPI. To demonstrate that this is true; all real estate investments’ returns between 1978 and 1994 were far above rate of inflation. The inflation hedging characteristics of real estate investments is also proven by a study on REITS returns and CPI index between 1982 and 2004 as illustrated in the **Figure 2**. It can be seen that except in 1990 and 1999, REITs returns were above the CPI index. This property characteristics were also validated by several researches carried out in the US and UK and discussed by Matysiak, et al (1996, pp 50-61)

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<sup>14</sup> Others include success rate (which is the percentage of property tax that is actually collected as a percentage of the total theoretically possible), cost yield (cost yield percentage is the full cost of assessment and collection, compared to total revenues collected) and comparisons (what is property tax revenue as a percentage of total tax revenues)

**Figure 2: Real Estate Returns Vs Property Investment Returns**

Source: PIMCO (2005)

In the previous chapter, it was pointed out that despite inflationary hedging characteristics inherent in property investments, tax revenues are not equally inflationary hedged. Can these property investments' inflation hedging characteristics be exploited to shelter property tax revenues from inflation? This is one of the research questions of this study and further theoretical answer to this question is discussed under Property Tax and Inflation.

### 2.6.2 Background of Property Tax

The use land and property in taxation as a fiscal tool has been in practice for many years (McCluskey Ed., 1991) and exists all over the world (Bird & Slack, Eds. 2004) the urban property tax is the most important local government revenue source (Bahl & Linn pp 77). The popularity of property tax as a source of local government revenues is not accidental, as property tax has many attributes that fit within the framework of a good local government tax system.

The history of property tax in Tanzania dates back to colonial times during which several types of hut and house taxes were levied. After independence in 1961, there were virtually no statutory powers to support imposition of property tax. Changes came in 1983 when the *Urban Authorities (Rating) Act (UARA), 1983* was enacted by the parliament. The enactment of UARA followed the enactment of the Local Governments Finances Act, 1982 which was passed after the re-introduction of Local Governments in 1982<sup>15</sup>.

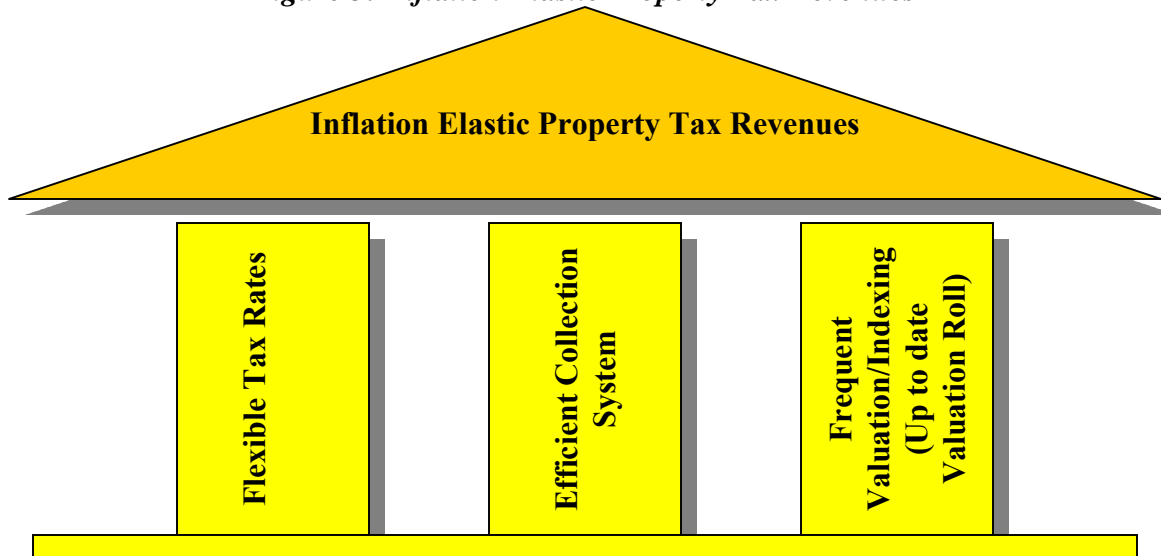
### 2.7 Property Tax and Inflation

It has been seen above that theoretically and empirically, property investments can protect an investment from risks of falling real revenues due to inflation. Can these inflation-hedging characteristics of properties be translated to property tax revenues of

<sup>15</sup> Local governments were abolished in Tanzania in 1972, and re-introduced in 1982 following decentralization policy adopted largely after realization that the central government couldn't successfully provide all public services.

local authorities? How should the property tax system be adjusted to cope up with declining purchasing power of its revenues? To answer this question one has to look at how property tax system is designed from administration perspective<sup>16</sup>. Kelly's & Masunu's (2000) three property administration components are referred<sup>17</sup> i.e. Tax Ratio (TR), Valuation Ratio (VR) and Collection Ratio (CLR). Each one of these components is discussed below to show how it impacts on property tax inflation hedging characteristics. The **Figure 3** below shows key components for inflation elastic tax revenues.

**Figure 3: Inflation Elastic Property Tax Revenues**



Source: Author (2006)

### 2.7.1 Valuation Ratio - Assessment of Taxable Value

Kelly & Masunu, (2000) define **Valuation Ratio** as the value on the valuation rolls divided by the real market value of properties on the valuation roll. It measures the accuracy of the valuation roll.

Taxable value assessment forms an important component of property tax administration. This component of property tax administration is the one that would actually translate property inflationary hedging characteristics into inflation hedged tax revenues. The process defines property values from which tax rate will be applied. However, the efficacy of the inflation resistance hinges on the frequency with which property values assessment is carried out. Because property values are constantly appreciating (which incidentally cushions properties against inflation if other components are properly administered), frequent value assessment is a pre-requisite if buoyant property tax

<sup>16</sup> While some policy issues like determining rateable area(s) have no impact on inflation and can be ignored, other policy issues are critical in setting the framework necessary to set inflation resistant tax.

<sup>17</sup> According to Kelly, property tax reforms to increase revenues have to be a function of [Tax Base (TB) × Tax Ratio (TR) × Coverage Ratio (CVR) × Valuation Ratio (VR) × Collection Ratio (CLR)] which contains policy and tax administration components.



revenues has to be maintained<sup>18</sup> (Bahl & Linn, 1992). Value assessment is related to determination of the tax base (valuation ratio), the more the increment in property values is captured when assessing values, and the more is the tax base (captured property value increments provide inflation hedge on real tax revenues). However, care should be exercised to isolate property value increments caused by additional physical improvements by property owners. Thus, this component of property tax administration is the main pillar of property tax which actually gauges the changing economic conditions (including inflation) by producing inflation proof tax base (Bahl & Linn, pp 108). Apart from frequent assessment, the only other way to increase the tax base is through newly improved properties which are added into the valuation roll (Bahl & Linn, 1992 pp 113). Thus inflation effects can be noted where assessment is sparingly done i.e. the assessed property values are overtaken by the rate of inflation.

As long as assessed value in real terms is reduced by inflation, real value of property tax collected on existing properties will decline. The fall in real taxable value under inflationary condition relieves taxpayers with their real tax burden which often sets a 'downward ratchet effect'<sup>19</sup>. An excerpt from Bird & Slack eds., (2004) provide a good commentary; "*Fair and productive property taxes require not only a good initial assessment but also periodic revaluation to reflect changes in Value. Frequent valuations maintain the legitimacy of the tax and reduce the risk of sudden, dramatic shifts in tax burdens from large increases in assessed values. For these reasons, the valuation cycle needs to be fairly short*". Usually, infrequent re-valuation is a recipe for governments' entanglement in a self-perpetuating downward ratchet effects on tax revenues. Under inflationary conditions, taxpayers' real tax burden is progressively reduced and as a result they become used to successive lower real tax burden. As the assessed value continue to lag behind market value, it becomes politically unpopular to abruptly adopt appropriate market values in tax assessment, thus further delaying re-valuations and setting a further decline in real revenues.

### ***Is It Possible to assess values as frequent as desirable?***

Regular revaluations are a necessary pre-requisite to any property tax system to ensure that **Fairness** and **Equity** are maintained. With sporadic revaluations (re-assessment), the burden of the tax system becomes unfairly distributed across property sectors. Revaluations are the mechanism by which regional variations and fluctuations can be taken into account (McCluskey ed., 1991). Tax assessment or re-assessment involves physical field surveys by qualified valuation surveyors on all properties as prescribed by responsible statute(s). Although statutory provisions in several countries require regular re-assessment of property values, few governments are able to actually consistently undertake the tedious and expensive property re-valuations exercise. Meagre financial, human and technical resources peg down governments' attempts to keep valuation rolls up-to date. For instance, in Johannesburg, the assessed value of real estate property in the city hardly change in the municipal books; it increases only by 0.5% per annum while real economic value increases much more (Windens, et al.). In Tanzania, the first valuation was done in 1970's the following re-assessment was in the late 1990s and early

<sup>18</sup> Different countries have different statutory requirement for property value assessment periods.

<sup>19</sup> Bahl & Linn argue that taxpayers become accustomed to gradual decline in their real tax burden

2000s in only 8 out of 35 urban authorities<sup>20</sup>. Consider this; the *Urban Authority (Rating) Act (1983)* stipulates for a five year period between re-valuations, and since its enactment in 1983 there has been only one re-valuation exercise and only in some select municipalities. In Philippines, in realization of the importance of frequency re-valuations, real property tax code shortened re-assessment interval from 5 years to 3 years in 1981-1984, but until 1991 no revaluation was done (Baraquero, in McCluskey ed. 1991 pp 114). There is a similar situation in Malaysia (Manuel pp 48. in Mcluskey). However, some countries operate property tax systems without regular re-valuations as shown above and evidenced in England and Malaysia (McCluskey, ed. 1991, pp 8).

### ***Indexing Property Values***

To offset the above problem some governments resort to *indexing property values by the rate of inflation* (e.g. Colombia) or by any other rate deemed best. Dillinger (1991, pp 6) outlines several basis of indexation that can be applied as;

- Δ Indexing by the rate of increase in land and construction costs within taxing jurisdiction e.g. United States.
- Δ Indexing by the rate of movement of property prices (annual property survey results) e.g. Colombia
- Δ Consumer Price Index (rate of inflation) e.g. Colombia
- Δ None of the above e.g. Brazil
- Δ Indexing by Rental Price Index (This is the most closely accurate reflection of changes in the local property market – [Author, 2006])

Indexing property values may prove resourceful in tackling inflation to countries lacking physical, financial, and technical and human resources to carry out frequent revaluations<sup>21</sup>. However, indexing should be done conscious of unintended results that may result. Property values change at different rate in different neighbourhoods and for different property categories, so when property values are increased by a common factor on annual basis, tax system based on property values lose its fairness and equity (Bird & Slack eds., 2004).

Another area of interest to which this study is attempting to answer is; *are there legal powers to support property value indexing? Which method(s) of indexing is suggested by those authorities?* (Refer to **para 4.5.2**)

### ***2.7.2 Collection Ratio - Property Tax Collection***

***Collection Ratio*** is defined as the tax revenue collected over the total tax liability which has been billed for the year. This measures the collection efficiency and is affected by collection of both current liability and tax arrears – enforcement efficiency (Kelly & Masunu, 2000)

The timing of tax liability accrual and collection, rewards for prompt and full payment or delay in payment and enforcement of tax payment is critical in checking real property tax revenues decline (Bahl & Linn, 1992) Property tax system should be designed with the

<sup>20</sup> Even in these selected urban authorities not all properties were valued.

<sup>21</sup> Even if there were adequate resources the yield from property tax would not justify costly re-valuation exercise.

shortest time lapse between when tax liability is due and the deadline for payment without compensatory penalty. Usually if property tax is not paid within specified timeframe, interests and a late fee are generally paid after the due date (Bird & Slack, eds., 2004). However, the important question is; *are interest and fee adequate?* Under inflationary conditions value of revenues is quickly lost through time lapse. Collection lags beyond allowable time frame expose tax revenues to higher than anticipated inflation. Apart from short tax accrual periods to counter Oliviera-Tanzi effects, the tax system has to be complemented with adequate penalties on property tax delinquents' minimum to offset the debilitating effects of inflation on real tax revenues (Bahl & Linn). Quoting Keith (1993, pp 13) on penalty "*an addition of a prescribed sum (penalty) to unpaid bills. The amount specified must well be above the rate of inflation and more than it would cost to borrow the money from a commercial source*". Thus, Keith's view is shared by this study that penalties should be indexed to inflation or prevailing commercial interest rates. Many developing countries have poor tax collection system (Bahl & Linn, 1992, Bird & Slack eds., 2004, Van de Dool, 2005, and McCluskey ed., 1991). Also refer to **Annex 1** for further examples of collection efficiency in different countries. In Tanzania failure to collect taxes is a persistent problem to local governments and is evidenced by widespread tax evasion and non-payment of taxes<sup>22</sup> (Odd-Helge, 2004.). Thus according to Kelly and Masunu (2000, pp 7.), collection rates in Dar Es Salaam municipalities is quite low ranging between 30-50%. Under unstable macro-economic conditions, inflation volatility poses high risk of losing real tax yield<sup>23</sup>. To establish an effective property tax collection system, governments need to able to enforce tax payments to all liable taxable property owners<sup>24</sup>. Two conclusions can be made with regard to non-payment or late payments of property tax: firstly it *reduces nominal tax revenues* and secondly it *exacerbates real tax decline*.

This study will explore the statutory options available for enforcing property tax payments by the taxing jurisdiction. Key will be comparison of the statutory imposed timing of payment deadlines, with actual property tax collection timing. Where possible, the magnitude of amounts involved expressed in current values will be measured and converted into constant values to establish the relative contribution of collection lags on property tax revenue growth. Similarly, the statutory provision of penalties for late payment will also be measured against inflation rate to determine whether penalties can suffice recovery from inflation loss.

### 2.7.3 Tax Ratio - Property Tax Rates

Kelly & Masunu.(2000) define **Tax Ratio** or **Tax Rate** is defined as the rate struck for taxing jurisdiction. This measures the tax amount per value of the property that is to be paid as tax. The tax ratio (or tax rate) is normally determined through the annual budget process.

<sup>22</sup> It estimated that 25% of earmarked property tax is collected in developing countries

<sup>23</sup> Because of the nature of the economy of Tanzania and other developing countries inflation is often a persistent problem.

<sup>24</sup> Bahl & Linn also show that failure to enforce tax compliance sets up "*a downward ratchet effect*" since taxpayers become accustomed to gradual decline in their real tax burden.

Tax rate is the multiplication factor to assessed value which determines property's tax liability. When multiplied by the total number of properties it determines tax revenues to be generated from property tax by the local authorities. The discretionary use of property tax rates is a non automatic way to maintain real property tax revenues (Bahl & Linn, 1992, pp 105-106) because property value increments embeds an element of inflation (built-in inflation elasticity) and can be exploited to peg down inflationary erosion on real tax revenues<sup>25</sup>. Usually property tax rate structure is statutorily imposed or politically designed to achieve a wide range of objectives like equity, progressive taxation, preferential treatment of particular group(s) of taxpayers, achieving other land use planning objectives etc. However, structure of property tax rate is equally important if inflation elastic tax system is to be set. McCluskey, (ed.) (1991), argues that tax rates are the only available means to the disposal of governments' to fight inflation. Although it could be argued that there are more than one way to fight inflation, and for developing countries indexing of property values could be an easy alternative. Thus apart from achieving other non inflation limiting objectives, any given rate structure has to be sensitive to economic trends (including inflation) to complement taxable value assessment and collection efficiency in setting an inflation proof property tax system. Where re-assessment is infrequent and collection lags are prevalent, tax rates expressed in nominal terms can be undermined by inflation and therefore reducing 'effective property tax rate'. In Philippines for example, where the nominal rate was as high as 2%, the effective rate was estimated at only 0.07% (Guevera et al. in Bird & Slack, 2004). Thus the use of rate structure to fight inflation is very effective influence on the property tax revenues real growth. Bahl & Linn (pp109, 1992), in analysing the contribution of rate structure in containment of inflationary erosion point out that "*the primary source of growth appears to be the rate elasticity, likely because of the influence of increases in the statutory rate*". Their findings are affirmed by Dillinger's (1988a: 6-8) analysis of property tax performance in 11 development countries in the 1980s (for examples of tax rates in Tanzania, refer to **Annex 2**). However, the choice of the use of rate structure to mitigate inflation is tied with opportunity costs which many urban authorities find hard to forego. Striking a balance between achieving other fiscal or non-fiscal objectives and yet fight back inflation is not an easy option. This may explain why despite the fact that tax rate is recommended, and at times the only available option; it has not been applied in many developing countries. This is due to;

- △ Lack of fiscal autonomy by local governments to use set tax rates
- △ Tax rate increases need policy action which is politically difficult to achieve
- △ Rate increases between re-assessments would introduce horizontal inequities because the movement of property values is not uniform to all properties.

Tax ratio is important to this study with respect to; firstly to decouple and measure property tax revenue growth attributed to adjustment of tax rates; secondly, to explore the optimal use of tax rates to mitigate inflationary erosion on real property tax revenue growth<sup>26</sup>. The study will also measure the degree of fiscal autonomy with which local

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<sup>25</sup> Assuming property value increments are timely assessed and actually translated into property tax collections.

<sup>26</sup> Recall that tax rates have wider use other than limiting inflation

governments can discretionary exploit tax rate to influence property tax inflation elasticity.

## 2.8 Inflation Elastic Property Tax Vs Affordability

There is no point of embarking on a mission to conceive an inflation reactive tax, if ultimately flexible effective rates can not be afforded by taxpayers. In other words, if all necessary adjustments are made into property tax to account for inflation and such adjustments unintentionally increase the real tax burden on taxpayers there is no case for its introduction<sup>27</sup>. The argument for sensitivity of a tax to real tax burden has been encapsulated by Getzendanner, (2004) in this excerpt; “*If [t]he art of taxation consists in so plucking the goose as to obtain the largest amount of feathers with the least possible amount of hissing, the duty of the tax practitioner is to hiss loudly and try to preserve the goose’s power of flight*”.

But the question arises; how to measure whether property tax is elastic to inflation and at the same time it does not lead into unintentional increase the real tax burden on taxpayers? One of the approaches to answer this question could be comparison between real revenue growth and taxpayers’ real income growth. Thus assuming that income elastic property tax is a good proxy for inflation elastic property tax there is a scope for a fairly accurate measurement. In other words to establish whether existing or perceived inflation elastic tax could be afforded by tax payers, it is possible to analyse property tax to taxpayers incomes (the aim is to maintain the same real tax burden). However, information on the rate of change of taxpayers’ incomes is not readily available (Bahl & Linn, 1990 pp 106). Tracking the rate of change of per capita GDP or Urban households per capita incomes, could provide a clue as to whether a tax is income elastic. However, it is vital to note that *inflation elasticity of a tax* is not synonymous to *income elasticity of tax*. While it is possible that income elastic tax is also inflation elastic, it is not necessary that inflation elastic is also income elastic<sup>28</sup>. Moreover, property tax is not a tax based on taxpayers’ income, but rather it is based on property values. Property tax is based on wealth embedded in property values. Like other forms of taxes based on wealth, there is strong correlation between taxpayers’ incomes and tax payments. Taxpayers of wealth-based taxes have to source the tax payments from their incomes which may not necessarily be generated from the wealth on which the tax is based. Therefore it is possible that ability to pay does not correlate to property value or wealth but closely related to income<sup>29</sup>.

To assess the income elasticity of property tax, the study will use an improvised elasticity measure based on the formula in **Box V** and results as shown in the **Table 7**.

### Box V

**Income Elasticity of Property Tax = %ge change in taxpayers real income / %ge change in real property tax or  $[(\epsilon_{\text{pply tax}}) = (\delta i_r) / (\delta r_r)]^*$**

*\* - %ge change of per capita GDP may be used in place of taxpayers’ income and factors that may cause shifts in the real revenues must be identified and excluded !.*

<sup>27</sup> Unless it is deliberately decided to increase the real tax burden to achieve some other policy objectives.

<sup>28</sup> Average income movements are closely tied to inflationary movements whereas taxes aren’t.

<sup>29</sup> This is part of the reason why property tax collections in most countries is not so effective because tax is not tied to income sources but it is rather tied to personal expenditures.

**Table 7: Determination of Income Elasticities of Property Tax**

$\epsilon_{\text{property tax}} > 1$	Elastic property tax	%ge change in real tax revenues is greater than %ge change in taxpayers real income*
$\epsilon_{\text{property tax}} = 1$	Uni-elastic Property tax	%ge change in property tax real revenues is equal to the %ge change in taxpayers income*
$\epsilon_{\text{property tax}} < 1$	Inelastic Property tax	%ge change in Property tax real revenues is less than %ge change in taxpayers income*

Source: Author (2006)

\* per capita GDP or average urban household could be used as Taxpayers' income

However, there is a major drawback of comparing the rate of change of taxpayers' real income (proxied by per capita GDP or average household real incomes) to changes in property tax real revenues because changes in real incomes and those of real property tax revenues can not theoretically (even more so practically) occur in the same fiscal year. Even where property tax has a high degree of inflation elasticity, it would take some time for the tax system to translate changes in real income into changes in real revenues. Thus it is possible that the tax system revenue growth response to inflationary changes may lag one or more fiscal years behind time when taxpayers' real incomes changed (depending on flexibility of the tax system). The question is: *how much time should be allowed to lag behind when comparing changes in taxpayers' real income to changes in real revenues?* This study will adopt a two-year time lag when comparing changes in real incomes and real revenues as hypothetically indicated in the **Table 8** below.

**Table 8: Cross -Years Comparisons of Real Incomes and Real Revenues Changes**

Years	1995	1996	1997	1998	1999	2000
Property Tax Real Revenues						
Taxpayers' Real Incomes (Real per capita GDP)						

Source: Author (2006)

More examples of measurements of income elasticity of property tax are given by Bahl & Linn (1992). However, Bahl & Linn do not illustrate actually how property tax elasticity is computed. Refer to **Table 9** below;

**Table 9: The Growth in Property Tax Revenues and the Tax Base**

City	Year	Annual rate of Increase		
		Property tax revenues	Assessed value	Prices <sup>a</sup>
Bogotá, Colombia	1963-1972	12.90	19.40	10.50
Cartagena, Colombia	1970-1972	16.50	22.50	9.00
Cartagena, Colombia	1978-19780	50.50	23.00	25.60
Hong Kon, Hong Kong	1984-1986	7.95	2.96	7.90
Ahmadabad, India	1961-1978	8.88	5.90	6.80
Bangalore, India	1961-1978	13.46	13.34	5.90
Bombay, India	1963-1972	8.00	7.20	7.10

Bombay, India	1969-1978	15.32	7.70	5.80
Calcutta, India	1966-1978	5.29	4.60	5.50
Delhi, India	1961-1981	14.61	13.41	5.90
Madras, India	1967-1977	13.98	9.34	6.10
Jakarta, Indonesia	1970-1973	120.70	-	13.10
Kingston, Jamaica	1969-1973	6.90	4.70	5.40 <sup>b</sup>
Seoul, Rep. of Korea	1963-1972	38.00	31.00	12.00
Seoul, Rep. of Korea	1981-1983	16.50	-	5.30
Manila, Philippines	1974-1984	13.80	8.40	18.40
Singapore, Singapore	1983-1985	12.29	8.99	1.50
Tunis, Tunisia	1966-1972	4.80	6.80	3.60
Lusaka, Zambia	1966-1972	16.30	14.80	6.80
Median Before 1979	<1979	13.70	9.30	6.50
	1979	12.30	8.40	6.60

Source: Bahl & Linn, (1990)

- Not available

a. The annual increase in price is on a nationwide basis taken from IMF (various years, a) except as otherwise noted

b. Actual rate of price increase for city

The measurement of income elasticity of property tax itself is based on the elasticity of individual property tax components elasticities i.e. tax base, tax rate and collection rate or collection efficiency (Bahl & Linn, 1991 pp 108). These are;

1. **The Base-Elasticity:** Measures responsiveness of property value to income changes. This shows the degree to which property tax revenues respond to changes in the economic base of the city i.e. income because of changes in the assessed value base.
2. **Rate Elasticity:** Measures the responsiveness of tax collections to changes in assessed property values. This gauges the extent to which property value increments (increase in value) are actually translated into property tax collections. This hinges on built-in elasticity of a given rate structure, collection efficiency and the effect of changes in the rate structure that have occurred during the period of measurement.
3. **Collection Rate Elasticity:** Measures the responsiveness of tax collections to changes in tax liabilities.

**Table 10: Estimated Income- Elasticity of Components of the property Tax in Selected Cities**

City	Year	Elasticity			Total - Income elasticity
		Base <sup>e</sup>	Rate <sup>b</sup>	Collection rate - <sub>c</sub>	
Bogotá, Colombia	1962-1972	0.71	1.06	1.03	0.77
Cartagena, Colombia	1961-1972	0.70	1.15	-	0.81
Ahmadabad, India	1961-1971	-	0.94	-	-
Ahmadabad, India	1961-1978	-	-	-	0.81
Bombay, India	1961-1971	-	-	1.17	-
Bombay, India	1969-1978	-	-	0.67	0.83
Calcutta, India	1960-1971	-	1.43	0.56	-
Calcutta, India	1966-1978	2.50	0.26	0.38	0.65
Delhi, India	1966-1978	-	-	0.68	-
Delhi, India	1961-1981	1.04	0.98	1.02	1.02

Madras, India	1961-1971	-	-	0.59	-
Madras, India	1967-1977	1.15	0.84	1.20	0.97
Kingston, Jamaica	1961-1972	-	2.33	-	-
Seoul, Rep. of Korea	1968-1971	-	0.89	-	-
Manila, Philippines	1974-1984	-	2.12	1.00	-
Tunis, Tunisia	1962-1972	-	1.56	-	-

Source: Bahl & Linn, (1990)

- Not available

a. The base-elasticity is the percentage change in assessed value divided by the change in income

b. The rate-elasticity is the percentage change in actual tax collections divided by the percentage change in assessed value.

c. The collection-rate-elasticity is the percentage change in actual tax collections divided by the percentage change in tax liability.

In the **Table 10** above, Bahl & Linn (1992) illustrates that most cities have income-inelastic property tax even where discretionary changes are taken into account. Apparently, the only primary source of growth is rate-elasticity which they attribute to the influence of increases in statutory rate. Similar study carried out by Dillinger (1988a: 6-8) to analyse property tax performance in developing countries, affirms these conclusions and seven out of eleven countries which were studied showed a real decline in property tax revenues.

## 2.9 Conclusion

It has been shown that in many countries, especially in developing countries tax revenues (including property tax) decline when inflation is factored out. In other words tax revenues expressed in current values have been growing. However, when revenues are looked in retrospect (Constant values to the base year) by correcting for inflation, tax revenues have been declining. It has also been seen that inflation hedging characteristic of property investments is undisputable. However, this property investments' characteristic can not be automatically extended to property tax revenues because property tax is not pegged to property investment returns<sup>30</sup>. The enormous and expensive task of tracking and capturing individual property returns would inhibit the maintenance of *an all year round up-to date valuation roll* which inter-alia forms the basis of inflation hedged property tax. Thus, to hedge or more precisely to reduce inflationary effects on property tax revenues it requires a separate and conscious consideration of inflationary conditions when property tax is conceived. Considerations fall along some property administration components promulgated by Kelly (2000) i.e. Tax Ratio, Valuation ratio and Collection ratio. Deliberate adjustments to these components may significantly help set-up a property tax system that is not susceptible to inflation. Because of the time lag between the time when inflation start to creep into the economy, and when some tax adjustments become effective, its anticipated that real tax revenues will show time lag pattern of responsiveness even where tax is set as inflation elastic. However, theoretically, when these adjustments on property tax policies and administration are analysed in the medium to long term they should exhibit property real growth pattern.

<sup>30</sup> Moreover, most of properties contained in valuation rolls are not investment properties and in developing countries market conditions are immature to warrant good selection of property investment returns.



## CHAPTER THREE: RESEARCH DATA

### 3.0 Introduction

In the previous chapter the theories supporting this study were discussed. In this chapter, information about the case study and presentation of data collected at the case study and at NBS /BOT is provided. The first section is dedicated to providing an economic overview of Tanzania especially factors leading to inflation. The section attempts to show the scale of the inflation problem and because of that, inflation has to be accounted for in any taxation system, even if inflation is deemed too low. Further, inflationary trends in Tanzania are provided and the National Consumer Price Index (NCPI) is provided for 1990-2005. The chapter provides information about TMC locally generated revenues and more detailed property tax revenues including tax rates, penalties and status of re-valuations. It finally provides data on relevant economic indicators of the Tanga region that are used as benchmarks indicators to evaluate and tie property tax revenues.

### 3.1 The Underpinnings of Inflation in Tanzania

In order to understand the full extent of the problem of inflation on property tax system, it is ideal to briefly provide an insight of the underlying factors that lead to inflation in the Tanzanian economy. It is deemed that such an insight will provide a reliable assessment of inflationary problem and therefore aid in making judicious tax administration decisions. Essentially the following discussions aim to show that inflation in the Tanzanian economy is almost inevitable because of weaknesses of the underlying economic fundamentals. As shown in **Annex 3**, GDP deflators have consistently been rising since 1990 to 2005 which indicates that prices are rising and most probably real tax revenues are declining. In that respect, a property tax system should be designed to adapt to inflation and not to ignore it even where inflation is perceived to be too low<sup>31</sup>. There are broadly two major factors leading to inflation in an economy, whereas other conditions only catalyses inflationary conditions. Here the study discusses the important factors including conditions that precipitate inflation, these include;

#### 3.1.1 Excessive Money Supply Relative to National Income (GDP)

Printing too much money relative to national income expressed in GDP is a recipe for domestic inflation in any country. This study does not attempt to go at any length to analyse the causality between excessive money supply and economic growth on one hand and inflation on the other hand. However, information on national income expressed by GDP volume and money supply is shown in the **Table 11** below.

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<sup>31</sup> Although inflation rate in one fiscal year can be low, its cumulative effect on the real purchasing power of revenues is utterly substantive

**Table 11: Tanzania, Money Supply and GDP Volume at Current and Constant 1992 Prices**

Years	GDP Volume in T.Shs Million at Current Prices	GDP Volume in T.Shs Million at Constant 1992 Prices	Extended Broad Money M3	Broad Money M2	Narrow Money M1
1990	760,005.00	1,219,236.00	170,196.20	166,674.80	111,084.90
1991	989,594.00	1,253,134.00	217,340.20	211,579.00	135,925.80
1992	1,275,917.00	1,275,917.00	301,925.90	284,968.30	185,876.20
1993	1,607,763.00	1,281,006.00	420,635.60	367,094.00	247,091.10
1994	2,125,324.00	1,298,943.00	569,743.20	486,489.20	329,624.80
1995	2,796,642.00	1,345,246.00	752,911.50	613,695.30	428,285.10
1996	3,452,558.00	1,401,711.00	818,063.00	684,990.60	449,213.30
1997	4,281,600.00	1,448,090.00	927,068.90	760,353.30	493,868.70
1998	5,126,177.00	1,505,827.00	1,026,984.70	844,929.40	545,517.00
1999	5,977,699.00	1,577,292.00	1,217,626.90	972,088.60	632,571.20
2000	6,705,134.00	1,654,319.00	1,397,688.80	1,093,610.90	695,006.50
2001	7,624,616.00	1,749,358.00	1,636,730.70	1,233,667.00	766,019.90
2002	8,699,887.00	1,857,175.00	2,047,683.10	1,507,386.50	958,786.60
2003	9,816,319.00	1,962,432.00	2,388,316.10	1,721,109.90	1,113,379.10
2004	11,287,319.00	2,094,516.00	2,848,120.00	2,050,886.00	1,315,739.40
2005	13,063,317.00	2,237,079.00	3,934,986.60	2,808,247.60	1,758,810.20

Source: National Bureau of Statistics (2006) and Bank of Tanzania (2002, 2006)

### 3.1.2 Central Government Budgetary Deficit

Another factor contributing towards inflationary trends is how frequently the government borrows from the central bank which is a result of budgetary deficit. As seen in **Annex 5**, the performance of the government finance for the period indicated in the annex has consistently been deficit which pre-disposes the government to borrowing from central bank. Even where the government does not borrow from the central bank, it creates the weak fundamentals which may increase pressure to depreciate the currency against hard currencies and in the process accelerate inflationary conditions.

### 3.1.2 Exchange Rate Depreciation

On its own exchange rate depreciation does not cause inflation because inflation is a result of domestic monetary policies. As a consequence of domestic phenomena, exchange rate tends to strengthen domestic inflationary conditions. In other words, currency depreciation (or exchange rate depreciation) is a sign that a country is experiencing domestic inflation and that chances are, it is likely that inflation would grow. Tanzanian Shilling (the national currency) has been fast depreciating against hard currencies like US \$. (Refer to **Table 12** and **Annex 4**) confirming in part that inflation is a long term problem to Tanzanian economy.

**Table 12: Tanzanian Shilling Depreciation against US \$ 1990 - 2005**

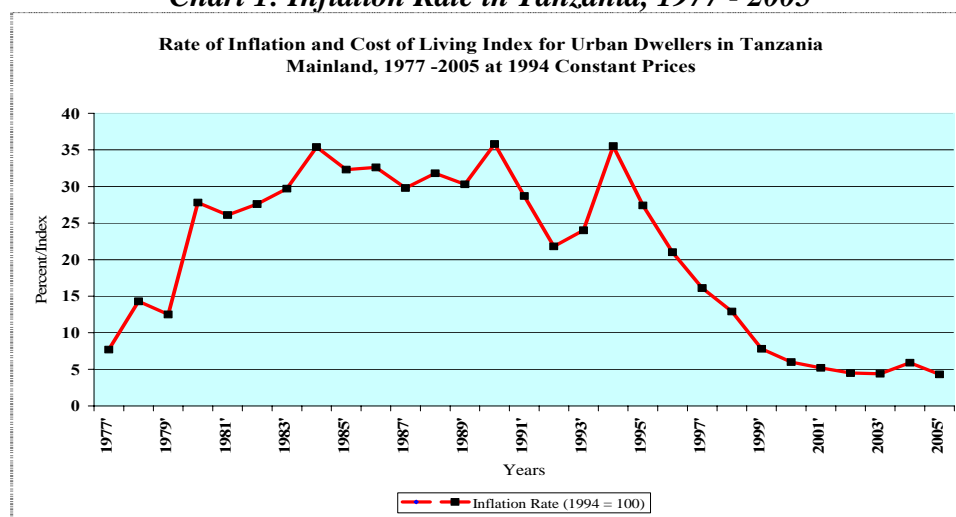
Years	T.Shs. Against US \$	Years	T.Shs. Against US \$	Years	T.Shs. Against US \$
1990'	197.59				
1991'	222.61	1996'	580.00	2001'	830.50
1992'	301.91	1997'	609.90	2002'	931.20
1993'	414.53	1998'	664.70	2003'	1,003.40
1994'	509.63	1999'	752.10	2004'	1,074.30
1995'	574.80	2000'	798.10	2005'	1,082.10

Source: National Bureau of Statistics (2006)

### 3.2 Inflation and CPI Outlook in Tanzania

As a result of some of the aspects discussed above, Tanzania has experienced some high inflation trend for a relatively long period of time. In the **Chart 1**, inflation trend is shown from 1977 to 2005. During that period, three governments were in power with different economic strategies. The 1<sup>st</sup> term government ruled 1961-1985. During its rule the 1<sup>st</sup> term government socialists' pursuits, famine, high fuel prices and a war with Uganda created weak economic fundamentals that dogged the economy and were a recipe for nagging inflation as evidenced in the **Chart 1**. The 2<sup>nd</sup> term government (1986-1995) reversed socialist policies, but it was dogged with persistent deficits and its expansionary monetary policy precipitated rising inflation shown in the **Chart 1**. The 3<sup>rd</sup> term government 1996-2005 came in with tight fiscal policies and limited government expenditures to allocated budgets. As a result, from mid 1990's inflation was brought down from its peak of 35.8% in 1990 to just 4.3% in 2005. Despite such a recent low rate of inflation, its ramification on real incomes/revenues is worth to reckon with especially in taxation (Refer to example in Chapter Two **Para. 2.2.1-2.2.3** under **Table 3**). The continuing rising prices of various goods and services despite fall in inflation in the country is also evidenced by rising GDP deflators (Refer to **Annex 3**.)

**Chart 1: Inflation Rate in Tanzania, 1977 - 2005**



Source: National Bureau of Statistics/Bank of Tanzania (2006)

Inflation for 2004 & 2005 has been calculated using 2001 as the Base Year (BY)

Parallel to inflation is the cost of living index for urban dwellers in Tanzania mainland synonymously called CPI (or NCPI in Tanzania). Basically the rate of change of CPI measures the rate of inflation<sup>32</sup>. Because the index measure the relative change in living cost from some past point in time, it is often stated with a designated time reference for which it relates. The author was able to obtain CPIs with different Base Years i.e. 1994=100 and 2001=100 as shown in the **Table 13** below. Coincidentally, CPI with 1994<sup>33</sup> as the base year is the appropriate index to be used when converting tax revenues to 1994 constant values. However, the NBS has only provided NCPI with 1994 as the Base Year for only up to 2001 although separately they have NCPI with 2001 as Base Year for up to 2005, that could suffice the time-frame under review by this study i.e. 1995-2005. To offset this problem the author has extrapolated NCPI indices (1994=100) from NCPI indices (2001=100) to obtain NCPI (1994=100) for the remainder of the period (2002-2005) appearing in the **Table 13** below.

**Table 13: Consumer Price Index (CPI) 1990 – 2005, for 2001=100 and 1994 =100**

Years	National Consumer Price Index (NCPI), 2001 = 100	National Consumer Price Index (NCPI), 1994 = 100	Rent 1994 = 100 (weight 1=4.9% and weight 2=3.9%) Rental Price Index (RPI)
1990	15.6	34.5	
1991	20.2	44.4	
1992	24.6	54.1	
1993	30.5	67.8	40.1
1994	41.2	90.2	94.3
1995	52.5	115.8	106.7
1996	63.6	140.1	137.4
1997	73.8	162.6	158.4
1998	83.3	183.5	172.2
1999	89.8	197.9	180.7
2000	95.1	209.7	190.8
2001	100.0	220.4	198.2
2002	101.0	230.5	201.3
2003	104.5	238.5*	213.2*
2004	108.9	248.5*	218.2*
2005	113.6	259.2*	234.7*
	<i>Source: NBS (2006)</i>	<i>Source: BOT various reports and * authors calculations</i>	<i>Source: BOT various reports and * authors calculations</i>

When analysed closer, the NCPI weighting raises the question as to appropriateness of NCPI in converting property tax revenues. As shown in **Annex 6** food weighting in the NCPI was 67.8% whereas non-food weighing was a mere 35.8% in 1993. In 2001, food weighed 71.2% as contrasted to 28.8% in the NCPI. This confirms conclusion made in Chapter Two that price movements are different in different sectors of an economy and for this case food prices are more volatile than non food prices. Because of the

<sup>32</sup> Other uses of CPI are; to adjust incomes for lost purchasing power due to inflation and convert a price or a wage or income into a real price or real wage/income to show equivalent amount in a base period after adjusting for inflation.

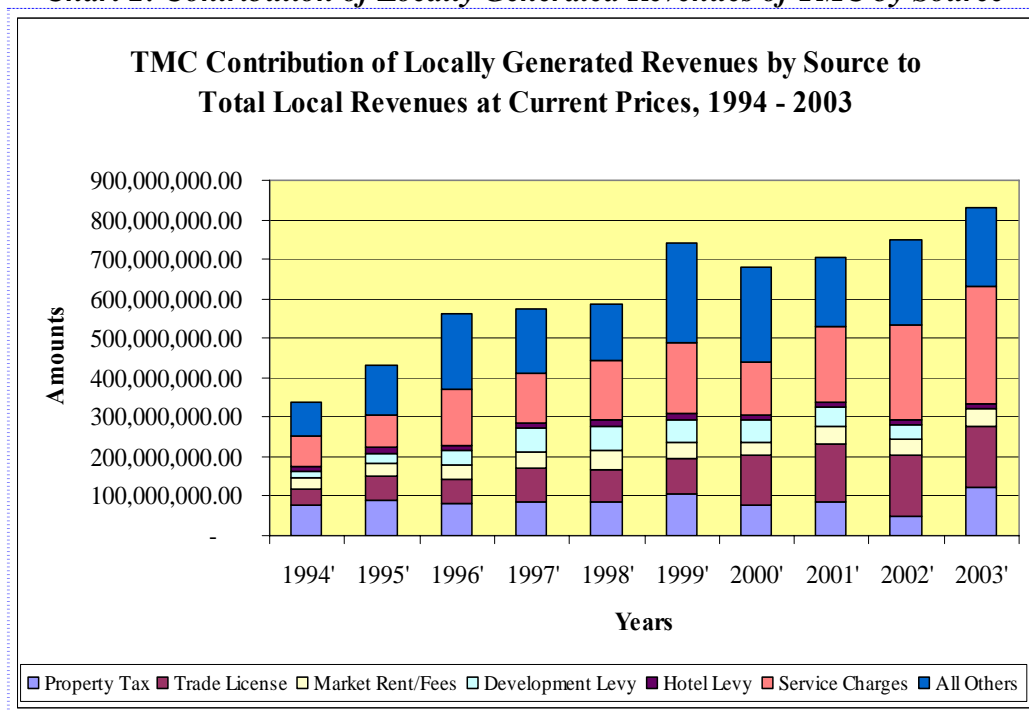
<sup>33</sup> Re-based to December 1994, and therefore can be applied to convert all values from Jan. 1995 onwards.

differential movement of prices, specialized price deflators would be used to deflate amounts depending on sectoral categorisation of the amounts being deflated into different values. Not all countries including Tanzania have all those different deflators for all sectors, so usually CPI may generally be used. However, when considering indexing of property tax revenues (property values) to movement of one of these indices, appropriate index must be selected so as not to distort perceived tax incidence. It is ideal for instance to tie property values to RPI separately although it weights only 4.9% in the overall NCPI.

### 3.3 Property Tax Revenues outlook of Tanga Municipal Council, 1995 - 2005

Records obtained during fieldwork at TMC reveal that on average property tax revenues account for just under 10% of the whole TMC locally generated revenues between 1995 and 2003 (Refer to **Chart 2** below and **Annex 7**). It is definite from the **Chart 2** below that the relative contribution of property tax revenues to overall locally generated revenues of TMC has been declining over the years. Whether property tax performance has been actually declining or the performance of other sources of locally generated revenues has improved is subject for further investigation. Both valued properties in the Valuation roll and those which are not valued and are just taxed flat rate are accounted for when analyzing property tax performance in TMC.

**Chart 2: Contribution of Locally Generated Revenues of TMC by Source**



Source: TMC (2006) and authors calculations

A detailed property tax revenues generation for 1995 – 2005 including influencing attributes is provided in the **Table 14** below.

**Table 14: Property Tax Revenue Performance for TMC, 1995 - 2005**

Years	Actual Tax Collection* in T.Shs Million	Tax Rate as %ge of Property Value	Tax Arrears** in T.Shs Million at 2% Compound Interest Penalty	Properties Incl/Excl from Valn Roll	Property Tax Billings in T.Shs Million	%ge Collected
1995	91,900,000.00	0.2%	-	<i>Not provided in figures***</i>	100,000,000.00	91.90
1996	76,910,000.00	0.2%	-		100,000,000.00	76.91
1997	85,340,000.00	0.2%	-		100,000,000.00	85.34
1998	85,000,000.00	0.15%	-		100,000,000.00	85.00
1999	104,000,000.00	0.15%	-		150,000,000.00	69.33
2000	87,000,000.00	0.15%	-		150,000,000.00	58.00
2001	85,000,000.00	0.15%	637,750.00		150,000,000.00	56.67
2002	54,000,000.00	0.15%	82,735,471.25		209,000,000.00	25.84
2003	92,722,000.00	0.1%	13,827,682.60		200,000,000.00	46.36
2004	92,293,534.00	0.1%	13,165,073.00		122,000,000.00	75.65
2005	126,476,118.94	0.1%	3,846,000.00	140,000,000.00	90.34	

Source: Tanga Municipal Council (2006)

\* Doesn't include any arrears from previous years

\*\* 1995-2000 figures could not be provided; it is assumed that the same system of accounting was used whereby tax arrears and actual tax collections of current fiscal year billing were adopted.

\*\*\* Further information is provided in chapter four

It was noted during the interview that neither re-valuation has been carried out since 1998<sup>34</sup> nor were new properties captured into a TMC valuation roll. It was also noted that some properties were exempted from paying property tax within the time frame under review. These included former government houses whose transfer of ownership was incomplete; all AIDS orphan houses; and mud & stick properties. According to TMC, there were no readily available records that show the exact amount of reduced property tax revenues as a result of such exemption. TMC was however able to provide an estimate that a decline in property tax revenues due to exemption is almost completely compensated by property tax revenues from newly developed properties that are levied flat rate tax. Since revenue loss due to exempted properties and revenue increase due to new properties cancel each other out, there is no reason to further exclude some additional properties that would otherwise distort revenue generation pattern for the period under study<sup>35</sup>. Although the net effect of exemptions and additions from and to the roll is said to be zero, the billings reveal to the contrary. The explanation behind this variation is lack of accurate fiscal cadastre. Another noteworthy fact is that, property tax revenues provided do not include property tax arrears which would also skew the assessment of real revenues if included. It has been established that for the period under review, property tax rates have been changed three times at the percentage indicated in the **Table 14** above.

### 3.4 Tanga Region Data

Information on this section was gathered with view to relate property tax revenue growth to local economic indicators. The aim is to tie property tax revenue performance under inflation to changes in taxpayers' real income movements within Tanga. The use of nationwide economic indicators for comparison would dilute the focused analysis that bears true local conditions. **Table 15** below lists some of these selected indicators that

<sup>34</sup> Even so, only some few select properties in some select areas within TMC were actually valued.

<sup>35</sup> Distortion is only for the purpose of this study because additional factors that lead to revenue increase/decrease have to be eliminated prior to calculation of real tax revenues in the specified period.

will be simultaneously be deflated with property tax revenues to discern existence of any correlation.

**Table 15: Tanga Regional GDP and Per Capita GDP**

Year	Tanga Regional GDP at Current Prices T.Shs Million	Percent-of Tanga Contribution to National	Tanga Regional per Capita GDP at Constant 1994 Prices T.Shs Million	Tanzania Mainland GDP at Current Prices T.Shs Million
1992	52,976.00	4.15	37,532.00	1,275,916.00
1993	66,252.00	4.12	46,056.00	1,607,762.00
1994	88,009.00	4.14	60,038.00	2,125,325.00
1995	114,680.00	4.10	76,778.00	2,796,640.00
1996	141,449.00	4.10	92,948.00	3,452,560.00
1997	175,266.00	4.09	112,777.00	4,281,600.00
1998	209,450.00	4.09	130,741.00	5,125,311.00
1999	243,734.00	4.08	147,589.00	5,977,699.00
2000	281,873.00	4.20	165,576.00	6,706,381.00
2001	336,986.00	4.42	192,028.00	7,624,616.00
2002	382,095.00	4.39	232,699.00	8,699,887.00
2003	418,456.00	4.26	252,128.00	9,816,319.00
2004	601,615.00	5.33	355,712.00	11,287,318.00

**Source:** National Bureau of Statistics, National Accounts Department (2006)

### 3.5 Conclusion

In accordance to research design, the study was destined to use primary data from TMC property tax records, data from the Ministry of Planning, Economy and Empowerment (NBS) and data from relevant legislations e.g. Urban Authorities (Rating) Act No. 2 1983 and the Local Government Finance Act, 1982. Due to the nature of the research, the study could not get alternate data to verify the validity of the data gathered. However, it can be concluded that for Tanzanian standards, data from the Ministry of Planning, Economy and Empowerment (NBS) is highly reliable<sup>36</sup> and can not be exhaustively counterchecked without incurring enormous cost and tedious work. Similarly the information from applicable statutes is neither optional nor could it be counterchecked because it is the only source. Also, information from TMC could not be verified except with data from within. Although TMC like other local governments has relatively inferior data collection and management system compared to the central government, most of data on property and other local revenues is fairly accurate. As a recap, the chapter has discussed main factors leading to inflationary conditions in Tanzania and why it's likely that inflation is permanent. Thereafter, inflation rate and CPI trends were shown and followed by a discussion on the underlying causes. The later section showed the position of property tax revenues against overall TMC locally generated revenues before the data on property tax was provided. Finally some relevant data about Tanga region indicators were presented.

<sup>36</sup> Its known that prior to publication of most reports, drafts of such reports are rigorous reviewed by an array of stakeholders and only after all have given their final approval that reports are published for public use.

## CHAPTER FOUR: ANALYSIS OF DATA

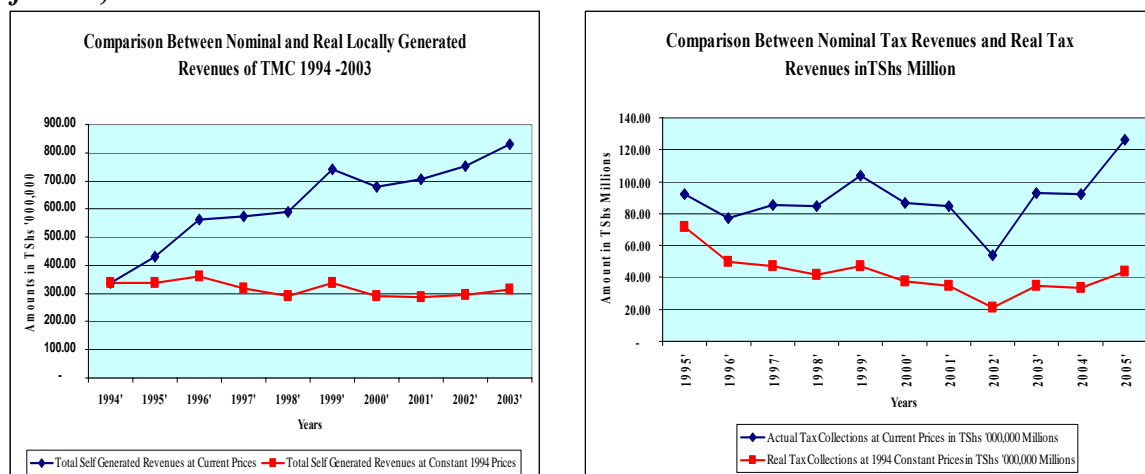
### 4.0 Introduction

The factors leading to inflation were discussed in chapter two and typical situation about pre-disposition of Tanzanian economy to inflation elaborated in chapter three. Even if inflation was reduced to a mere 2%, its debilitating effects on real incomes/revenues cannot be ignored but instead it has to be reckoned with. It is almost certain that inflation will continue to persist in the Tanzanian economy for a long time to come. Therefore for those keen to improve property tax revenues have to seriously start contemplating the incorporation of inflation adjustments into property tax administration systems. In this chapter, an analysis of TMC property tax revenues is made using several relevant indicators to profile the scale of problem of inflationary corrosion on un-adaptive property tax.

### 4.1 TMC Local Revenues Performance Outlook

This section positions the performance of property tax revenues along with total locally generated revenues of TMC. Data from 1994 to 2003 was obtained and is shown in **Annex 7** and **Chart 3** below. (Also refer to **Chart 2** for a detailed contribution by source). TMC has no accurate account of number of properties eligible for taxation which is the reason why the tax billings are not uniform despite absence of any significant change in the valuation roll (**Table 14**). Ideally the property revenues collected need to be standardized to some average to overcome this shortcoming. Standardization would weigh down the revenues than in their current form. Standardization is expected to portray a grimmer outlook than un-standardized revenues. Because lack of standardization weighs favourably to property revenue performance than actually is, it can be ignored at this stage.

**Chart 3: Comparison of Property Tax Revenues Vs Total Locally Generated Revenues of TMC, at Current and Constant 1994 Prices 1995-2005**



Source: Author (2006)



The graph on the left shows overall locally generated TMC revenues at current prices have been rising from about T.Shs. 340 million in 1994 to T.Shs. 830 million in 2003. To the contrary, property tax revenues (on the right graph) at current prices have been erratic and with exception of 2003, they remained almost constant. *What is wrong to property tax? Why property tax has poor rating in terms of revenue growth relative to other sources?* Without new properties being captured into a fiscal cadastre, a 'static valuation roll' and 'ineffective property tax rates' the results only galvanize the argument that property tax easily succumbs to inflation. But the fact that static nature of property tax is discernible even at this stage provides the first impression on how serious inflation impacts on property tax performance. This is a hint that when inflation is factored out, the performance of TMC property tax real revenues would be more dismal.

TMC total locally generated revenues at constant 1994 prices have remained largely unchanged hovering just above T.Shs. 300million. Thus this signifies that, overall the TMC has managed to sustain the purchasing power (price) of their local revenues for 11 years<sup>37</sup>. On the other hand, property tax revenues expressed at constant 1994 prices have been dwindling since 1995 from about T.Shs. 75million to just about T.Shs. 40million in 2005. It is not surprising that, if the situation remains unfettered, property tax will sooner be relegated to smaller and cost ineffective tax source of local governments' revenues. To examine which sources assume an increasing/decreasing role in contributing to locally raised revenues refer to **Chart 2** and **Annex 7**.

#### **4.2 Property Tax Administrative Components Vs Inflation**

This section firstly puts into perspective the reasons why property tax revenues have been falling. Then it empirically positions the relative degree of susceptibility of property tax administrative components to inflation with view to highlight areas of priority when and if property tax system needs to be adjusted to become inflation adaptive. These components are as follows; valuation (valuation ratio), property tax rates (tax ratio) and collection efficiency (collection ratio). The section highlights how each component has been fairing when its values are corrected for inflation.

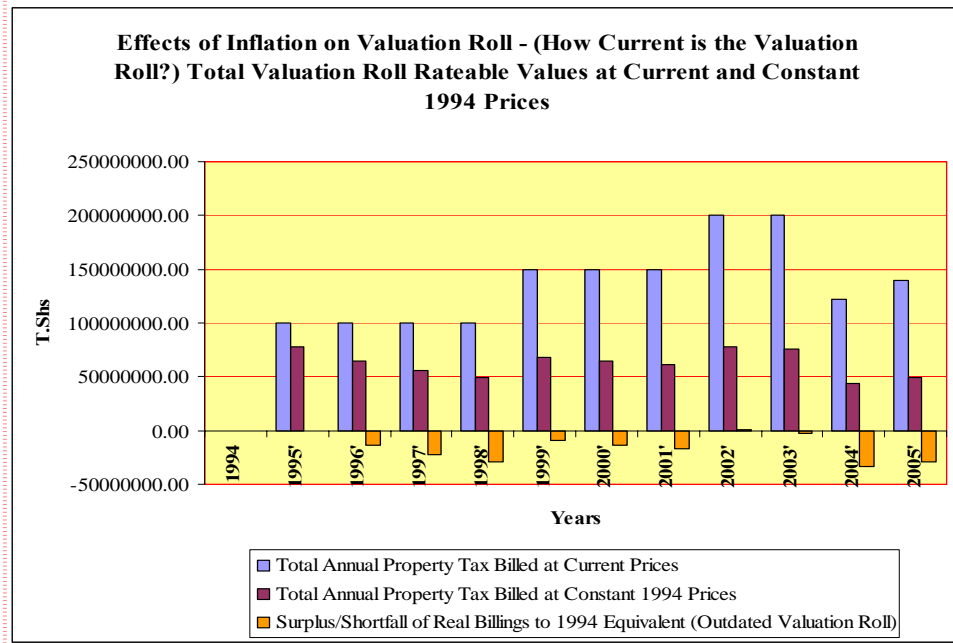
##### **4.2.1 Valuation Ratio (Rateable Value in the Valuation Roll Vs Inflation)**

In this section an analysis is made to measure the extent to which lack of frequent re-valuations impacts on growth of property tax real revenues. At this stage, it should be known that within the period under review, valuation has been done only once in TMC area which only covered part of all rateable properties. To circumvent this problem in examining property value lags behind inflation, the study will trace property tax billings for the period as a proportion of total rateable values in the roll as gauged by tax rates. Because tax rates had been changed three times from 0.2% to 0.15% and finally to 0.1%, it would be assumed the billing for the period represented 0.2%, 0.15% and 0.1% of total rateable value respectively<sup>38</sup>. Therefore, deflating the annual property tax billings can represent 0.2%, 0.15% and 0.1% of total rateable value at constant 1994 prices. **Chart 4**, below shows the level of real rateable values pattern for the period.

<sup>37</sup> At least overall TMC real revenues seem to be unaffected by inflation, if there is any fiscal gap it could be a result of other factors like urban growth, increased mandate etc.

<sup>38</sup> TMC applies uniform tax rate on all types of properties in its jurisdiction

**Chart 4: Effects of Inflation on Valuation Roll (Represented by Billing) in TMC**



Source: Author (2006)

At this stage, the property tax billing has not been standardized. In order to get the overall picture of this component of property tax administration performance under inflationary conditions<sup>39</sup>, all values may be included. Then un-standardized property tax billings were corrected for inflation to 1994 base year and results are as shown in **Chart 4**. It can be seen that despite lack of standardization, property tax real rateable values have declined or at best remained the same as 1995 real values. In between 1995-2005, almost all years had recorded somewhat less real rateable values than those recorded in 1995 except for 2002. The last two years (2004 & 2005), had recorded the lowest real rateable values, indicating even faster rate with which the roll is being surpassed by inflation.

The shortfall in property tax real rateable values (relative to 1995 real rateable values) is indicated in the negative downward bars. Even without standardization, the shortfall in real rateable values (proxied by billings) is quite substantial to TMC standards. From these observations, it can be deduced that the valuation ratio is one of property tax administration components that has seriously succumbed to inflation, rendering it obsolete in terms of the original real tax burden (effective rate) that it was perceived to dispense. It is undisputable that the “*downward ratchet effect*” is well pronounced in TMC. This underscores the importance of frequent re-valuations or indexing of property values to capture value increments that are constantly rising. As it was noted in Chapter two, no local authority can afford to carry out frequent re-valuations satisfactory enough

<sup>39</sup> The only factor that would affect the total billings apart from tax rate is either some addition/removal of properties in the valuation roll. The effects of tax changes in tax rate will be examined separately in the next section. But since overall billing has been rising, it doesn’t negatively affects the results, except that whatever the outcomes, property tax rateable values would be even less had the study standardized total amount of billings.

to correct for inflation. Such observation can only cement the argument for indexing property values if real tax revenues have to be sustainable.

#### 4.2.2 Collection Lags and Penalties of TMC

This section divulges two important property tax performance indicators; one, is *how are collection lags impacting on real revenue growth?* and second *are penalties imposed to tax delinquents adequate to compensate for loss due to inflation?* It is expected that this analysis could aid determine the role that collection efficiency contributes towards overall property tax real revenue growth/decline. It is also vital to know that the *Local government Finance Act, 1982* requires that each local government to make bye-laws determining the timing of deadlines for payment of any of its rates/taxes (for details refer to **Para 4.5.3**).

##### 4.2.2.1 Collection Lags

The collection efficiency of TMC can be looked at from **Table 14** in Chapter Three by subtracting actual property tax collections from property tax billing of the same year. The actual uncollected taxes are as shown in the **Table 16** below;

**Table 16: Annual Un-Collected Tax and Annual Collected Tax Arrears**

	95	96	97	98	99	00	01	02	03	04	05
Uncollected Property Tax at Current Prices in '000,000 T.Shs	8.1	23.1	14.7	15.0	30.7	42.0	43.3	74.2	53.6	24.4	9.7
Amount of Un-collected Tax in '000,000 T.Shs. Inflated to Previous Base Year	10.4	28.0	17.0	17.0	33.1	44.5	45.5	77.6	55.5	25.4	10.1
Collected Property Tax Arrears at Current Prices in '000,000 T.Shs.	-	-	-	-	-	-	0.6	82.7	13.8	13.2	3.8

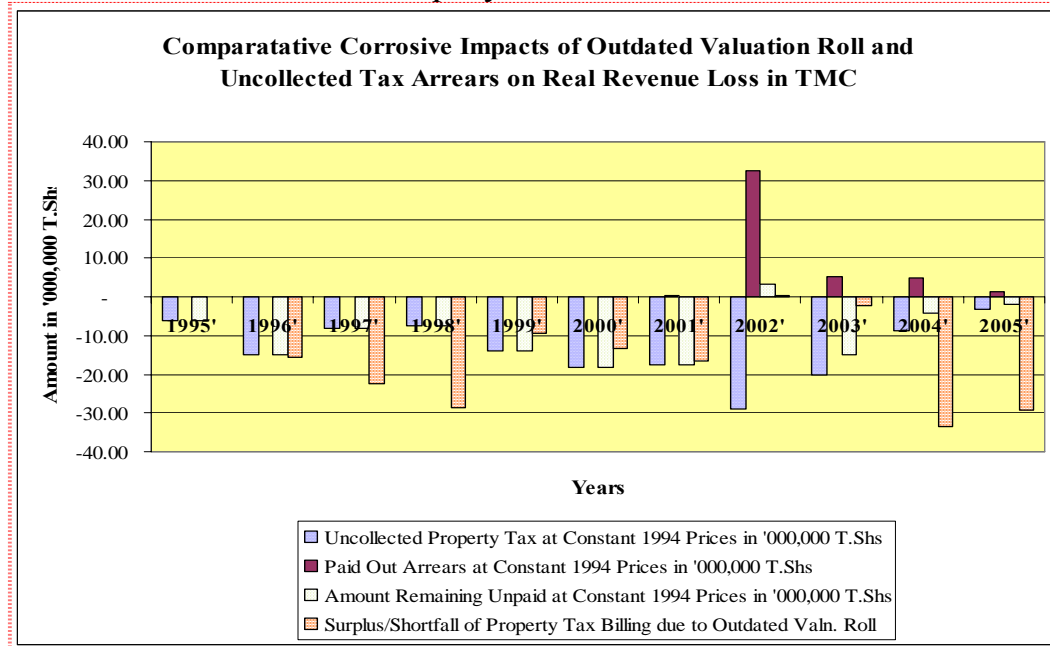
**Source:** Tanga Municipal Council (2006)

The **Table 16** above indicates the annual uncollected property tax, and corresponding inflated amounts of inflated property tax arrears<sup>40</sup>. The inflated amounts are slight above actual un-collected arrears. It is not known when these overdue taxes are actually paid. In absence of time reference, it is difficult to measure the real loss of tax revenues as caused by late payments. Although TMC has recently started accounting collection of property tax arrears separately (See **Table 14**), the data is lacking for the period 1995-2000 and even so, the actual dates the tax arrears are collected could not be authentically traced. The study can not make any meaningful analysis of collection lags in real terms.

At this stage it has not been established between *valuation ratio* and *collection ratio*, which component has more serious impacts than the other in denting TMC property tax real revenues? Computation of the relative effects each component has been done based on the arrangement indicated in **Annex 8** and results displayed in the **Chart 5** below.

<sup>40</sup> Assuming all property tax arrears are fully settled at the end of each fiscal year.

**Chart 5: Corrosive Impacts of Outdated Valuation Roll Vs Uncollected Arrears on TMC Property Tax Real Revenues**



Source: Author (2006)

In the **Chart 5** above, the amounts of shortfall in rateable values relative to 1995 is in most cases greater than the amount property tax arrears remaining unpaid. In 1996, 1997, 1998, 2002<sup>41</sup>, 2004 and 2005 the shortfall in rateable value (represented by billing) exceeded the amount of unpaid arrears all expressed in real terms (bad debt). Even for years 1999, 2000, 2001 and 2003 where amounts of unpaid property tax arrears exceeded the shortfall in rateable value, the collection lags better outlook is traced to; *First*, the standardization of billings as proxy for rateable values (in **Chart 4**) which unfavourably weighs down the outlook of outdated valuation roll against unpaid property tax arrears. *Second*, although collected property tax arrears were not in records between 1995-2000, it is by no means that they were not collected (**Table 16** above). Taking these into account it can be deduced that the valuation ratio component of property tax administration has more corrosive effects than collection lags.

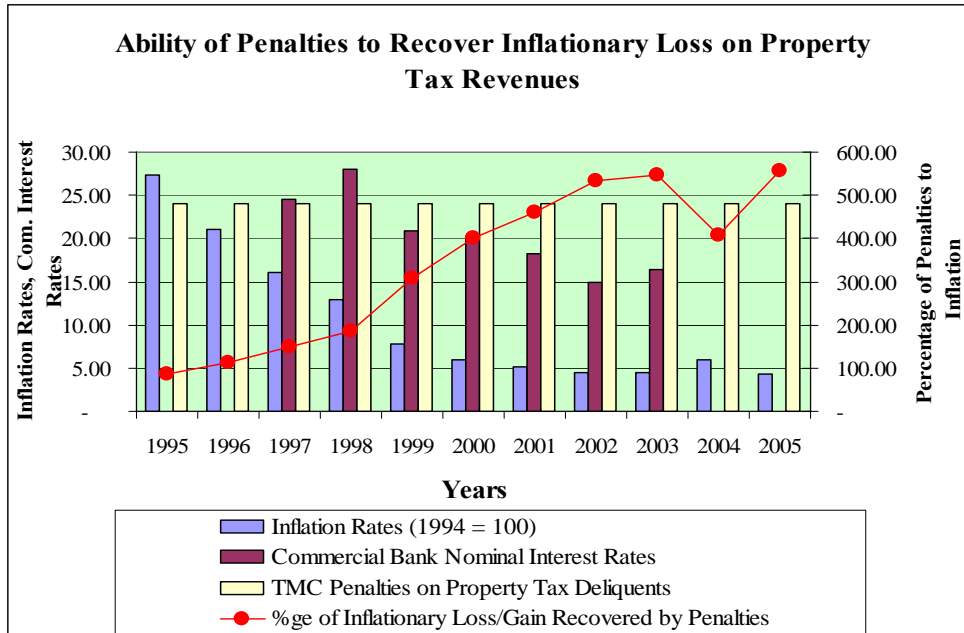
#### 4.2.2.2 Penalties

Penalties are introduced in taxation system with view to achieve two parallel objectives i.e. deter late payments and recover the lost purchasing power of revenues. According to *Local Government Finance Act, 1982* and local property tax bye-laws (TMC) of 2002, every property owner is required to pay property tax within 90 days after the beginning of the new calendar year after which penalties start to accrue. For practical reasons the timing of payment of could not be any better. After all, it coincides with the publication of widely circulated economic bulletins containing indicators that would be benchmarks for property tax performance which are often issued quarterly.

<sup>41</sup> In this case positive growth of rateable value was far less than growth of unpaid property tax arrears

TMC has a 2% monthly (or 24% annual) penalty on compound interest basis for late payments of property tax. **Chart 6** below, provides ideal indicative benchmarks to penalties that if adopted would enable property tax arrears to maintain the real value despite lapse of time and inflation. In the **Chart 6** below it can be seen that the penalty adopted by TMC by far exceeds the rate of inflation in all years except for 1995 where recovery was slightly less than 100%. The penalty recovery of lost purchasing power of revenues has grown substantially to over 500% in 2005 as inflation continued to fall from 27.4% in 1995 to 4.3% in 2005. When penalty is analysed against commercial banks' interest rates the gap is less pronounced<sup>42</sup>. It can be seen that the ability of penalties to recover inflationary loss on property tax arrears has a negative correlation to inflation<sup>43</sup>. As inflation falls, the ability of penalty to recover for the inflationary loss increases. Although the amount of penalties seem to be too high, the ceiling for imposing those penalties is provided by the *Local Government Finance Act, 1982* under **S. 31(1)(f)** (Refer to **Para 4.5.3**). As long as inflation remains under 24%, the penalties are quite adequate to compensate for loss in value of overdue taxes.

**Chart 6: Comparison between Penalties Vs Rate of Inflation and Interest Rates**



Source: Author (2006)

It should be noted that penalty recovery of the purchasing power of property tax arrears discussed above is only possible if TMC can effectively enforce compliance.

### 4.2.3 Tax Rates

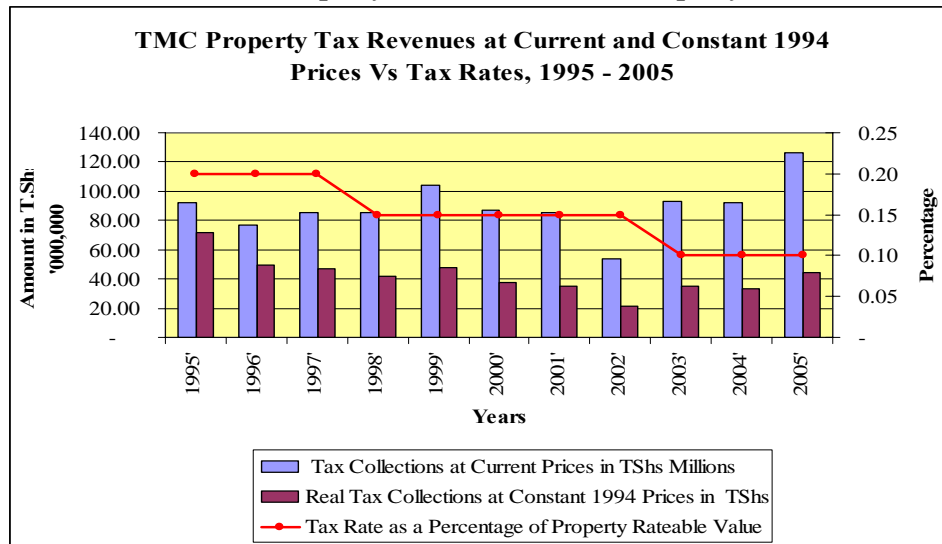
It is known that despite inflation and declining real revenues, TMC council has reduced property tax rates two times in the period under review. How far has a change in tax rates

<sup>42</sup> Commercial Banks interests are much higher because they cover for inflation, opportunity cost of capital and risk of default.

<sup>43</sup> Assuming the penalties apply only to accruals from current financial year and ignores all arrears accumulated in previous years.

contributed towards the dismal performance of property tax in TMC? To analyze the impact of tax rates, comparison is made to both nominal and real tax revenues against different property tax rates that were adopted by TMC during the period under study. In the **Chart 7** below TMC property tax revenues at current prices and at constant 1994 prices are plotted against the prevailing property tax rates.

**Chart 7: TMC Property Tax Revenues Vs Property Tax Rates**



Source: Author (2006)

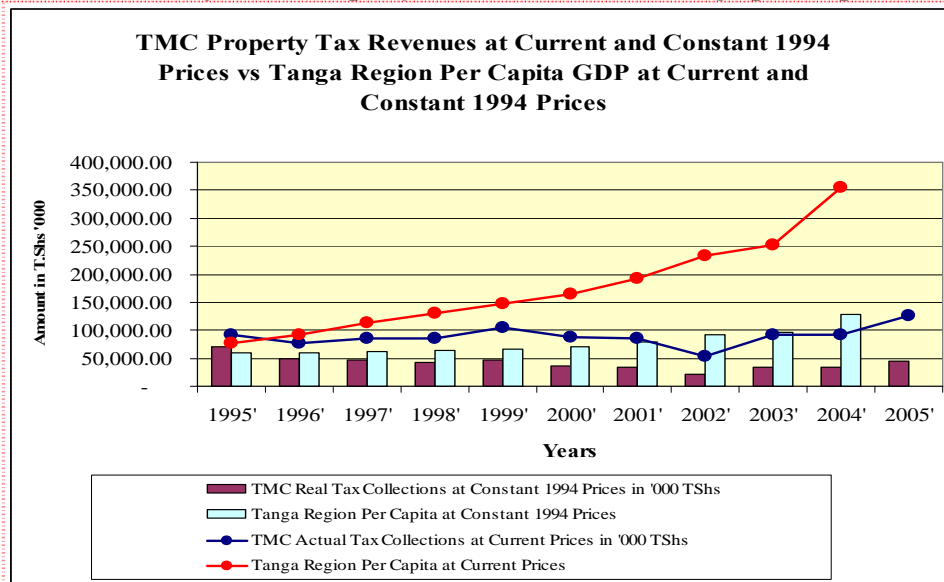
To have a reasonable assessment it is assumed that collection efficiency has remained constant for the period under study. In the **Chart 7**, it is noted that there is spurious correlation between property tax revenues at current prices and property tax rates. When examined in a much shorter time-frame, there is almost perfect negative correlation between tax rate and property tax revenues at current prices. Thus when tax rate was 0.2%, property tax revenues were hovering close to T.Shs. 80million and when property tax rate was reduced to 0.15%, to the contrary, property tax revenues surged to over T.Shs. 100 million in 1999 before dropping again to around T.Shs 80 Million. This is also true for 2003-2005. As tax rate was reduced further to 0.1% in 2003, property tax revenues increased from about T.Shs. 54million to over T.Shs. 90million in 2003 & 2004, and T.Shs. 104million in 2005. When examined from constant prices perspective, also there is no significant correlation between property tax real revenues and property tax rates.

From this analysis it can be inferred that property tax rates play an insignificant role in the negative growth of property tax real revenues of TMC. Apparently, the small percentage of tax rate itself cannot have any noticeable impacts on the movement of property tax revenues either at current prices or constant prices. That said, this could imply that all tax rates could have insignificant impacts to the overall tax yield. (Compare various tax rates adopted by different local authorities in **Annex 2**). This showcases that in most cases tax rates are not economically realistic and their role remains largely token.

### 4.3 Property Tax Elasticity to Inflation (Affordability)

It has been one of the objectives of this study to establish whether inflation elastic property tax can ultimately be afforded by taxpayers. In other words, does property tax system that is adaptive to inflation dispense the uniform real tax burden to taxpayers? It should be recalled that it was argued that to measure elasticity of property tax, it could proxied by income elasticity of property tax (refer to **Para 2.8**). In the **Chart 8** below, an analysis is made to measure any such disparity/correspondence between real property tax revenues and real taxpayers' income as represented by real per capita GDP.

**Chart 8: Growth of TMC Property Tax Revenues Vs Tanga per Capita Growth**



Source: Author (2006)

Thus per capita GDP of Tanga region at current prices has steadily been rising from about T.Shs 75,000 in 1995 to about T.Shs 350,000 in 2004<sup>44</sup>. In contrast, property tax revenues at current prices of TMC have been erratic. In 1995, TMC generated about T.Shs 90 million, in 1996-1998, the average property tax revenues dropped to an average of T.Shs 80 million before raising again to T.Shs 104 million in 1999. The lowest property tax revenues were recorded in 2002. Thus the gap between property tax revenues and per capita GDP of Tanga region has grown from almost none in 1995 to substantial disparity in 2004. Likewise, an examination of Tanga region per capita GDP at constant 1994 prices Vs tax revenues at constant 1994 prices reveals that, real per capita GDP of Tanga region has slowly but steadily grown from T.Shs 50,000 in 1995 to about T.Shs 125,000 in 2004. In the same timeframe, property tax real revenues have exhibited negative growth from about T.Shs 75 million in 1995 to just about T.Shs 35 million in 2004.

<sup>44</sup> The study was not able to obtain TMC per capita GDP which would be more meaningful to compare to TMC property tax revenues than Tanga region per capita GDP, the closest available indicator but which might be as accurate.

Thus existing property tax system has almost a negative synchronization to real per capita GDP of Tanga region implying that there is a room to adapt property tax to inflation without necessarily altering the real tax burden of taxpayers.

A further indicative test to affordability of inflation elastic property tax could be its measure of real income elasticity<sup>45</sup>. Ideally, the property tax elasticity to real income should be at the point where  $\mathcal{E}_{\text{property tax}} = 1$  i.e. rate of change of real property tax revenues = rate of change of taxpayers' real income. Using a formula given in Chapter Two under **Box V**, income elasticity of TMC property tax was computed and the results are shown in the **Table 17** below.

**Table 17: Income Elasticity of TMC Property Tax, Year on Year and Two Years Lag Elasticises**

Years	1996'	1997'	1998'	1999'	2000'	2001'	2002'	2003'	2004'	2005'
%ge change in per capita income	0.06	4.54	2.72	4.67	5.87	10.35	15.87	4.72	35.41	
%ge change in real TMC tax revenues	-	-4.39	-11.74	13.45	-21.05	-7.04	-39.25	65.95	-4.47	31.38
Property Tax Income Elasticity e (Year to Year Elasticity)	-0.00	-1.03	-0.23	0.35	-0.28	-1.47	-0.40	0.07	-7.93	-
Property Tax Income Elasticity e (Cross Year Elasticity)			-0.27	13.08	-9.77	-3.18	-14.53	144.70	-2.00	

Source: Author (2006)

In the **Table 17** above, when property tax real revenues elasticity for the same year real incomes is calculated,  $\mathcal{E}_{\text{property tax}} < 1$ , for most of the years except in 1999 and in 2003<sup>46</sup>. When a 2 year lag is allowed and elasticity of property tax revenues calculated, it is found that it is only in 1999 and 2003 again that  $\mathcal{E}_{\text{property tax}} > 1$ , (i.e. property tax was elastic to changes in real incomes). For the remainder of the period, property tax real revenues exhibited inelasticity to changes in real incomes<sup>47</sup>. Given the TMC tax administrative strategy, it can be inferred that such elasticity of property tax exhibited in 1999 and 2003 is a result of sheer coincidence rather than a result of deliberate policy objectives to adapt property tax to inflation. Because in most cases,  $\mathcal{E}_{\text{property tax}} < 1$ , (i.e. percentage change in property tax real revenues is less than percentage change in taxpayers' real incomes) it also confirms that there is a room to adapt property tax to inflation without shifting the real tax burden of TMC residents.

<sup>45</sup> Real income is only used as a proxy for inflation, and property tax should not be tied to incomes because it is based on property values rather than taxpayers' incomes. However, because taxpayers do not necessarily generate their incomes from these properties, to test for affordability the use of their incomes could be appropriate.

<sup>46</sup> Apparently, confirming partly that change in real incomes can hardly be reflected in real property tax revenues of the same fiscal year.

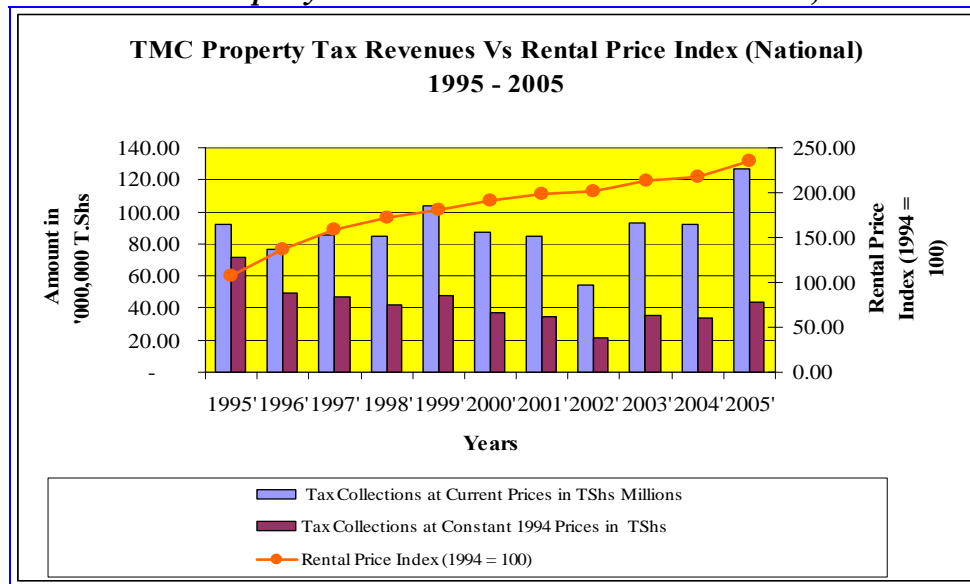
<sup>47</sup> When two year lag is allowed, elasticity in 1996 and 1997 can not be established. The figures of 1995 do not appear in the table but they are reflected in the values of percentage changes in real incomes and percentage changes in property tax real revenues in 1996.



To countercheck whether inflation elastic tax moves in tandem with taxpayer’s ability to pay tax that has been adjusted for inflation, the study resorted to examining the performance of property tax revenues against RPI all to the 1994 base year. It was not possible to obtain the RPI specifically for TMC, but instead the national RPI is used. Therefore, the resulting conclusions may not be definitive, but be a useful benchmark for which TMC can compare their property tax revenues. The rental price index indicates how rental prices have been growing over the years. To make a fair assessment, it is assumed that the people are somehow affording to pay rents reflected in the movement on the index, that is why rental prices have been burgeoning.

The **Chart 9** below clearly portrays the marked disparity between the RPI and TMC property tax real revenues. Once again, while the RPI has been consistently rising from 100 in 1995 to 230 in 2005, property tax real revenues have been declining at an ever-increasing gap to RPI from about T.Shs 75 million to about T.Shs 40 million in 2005. It is almost true that the RPI has a perfect negative correlation to property tax real revenues of TMC. Thus if RPI has been rising, it is imperative that property values have also been growing justifying the urge to adjust tax to inflation. It is also true that if the RPI has been rising, and somehow urban residents can afford to pay ever increasing rentals, property owners can also afford to pay property tax that has been adjusted for inflation<sup>48</sup>.

**Chart 9: TMC Property Tax Revenues Vs Rental Price Index, 1995 - 2005**



Source: Author (2006)

The above inferences are based on examination of the existing property tax system to conclude that there is a room for improvement. What if property tax system has been adjusted for inflation? For further information refer to **Para 4.4** and **Chart 10**.

<sup>48</sup> For owner-occupiers of properties it is assumed that they paying imputed rent, which also moves along the RPI, implying that there is a rise of their property values and therefore justifying tax increase to catch up with rising property values and which incidentally corrects for inflation.

#### 4.4 Indexing of Property Tax

There are many ways in which property values may be indexed so that they at least keep coping up with inflation. For a country like Tanzania, the most readily available data is the NCPI and RPI. However, the later is more closely related to the property values cycles than the former, which implies that the later is a good index to which property values can be indexed. It should be known that this is the simple indexing scenario, i.e. indexing of property tax here is done in its crudest form not matching the comprehensive real estate market index yet to be constructed in Tanzania.

The RPI data is widely available in quarterly economic bulletins of the Bank of Tanzania (BOT) and at the NBS. This form of indexing could be categorized as simple indexing model because it ignores some attributes that would influence the movement of property values. For instance, due to property heterogeneity, property values of all properties within the municipality are not expected to move uniformly. Property values may move by specific geographical location within the municipality or by property uses/type e.g. commercial or industrial properties. Thus the simple model index blankets all properties as if they are actually moving along the RPI uniformly. Having divulged this shortcoming, movement of property values is shown in **Table 18** below, (extracted from billing) whereby comparison is made to movement of RPI. At later stage it would be shown how indexed tax is fairing with real per capita GDP of Tanga region.

**Table 18: Simple Indexing Scenario of Property Values for Tax Purposes in TMC**

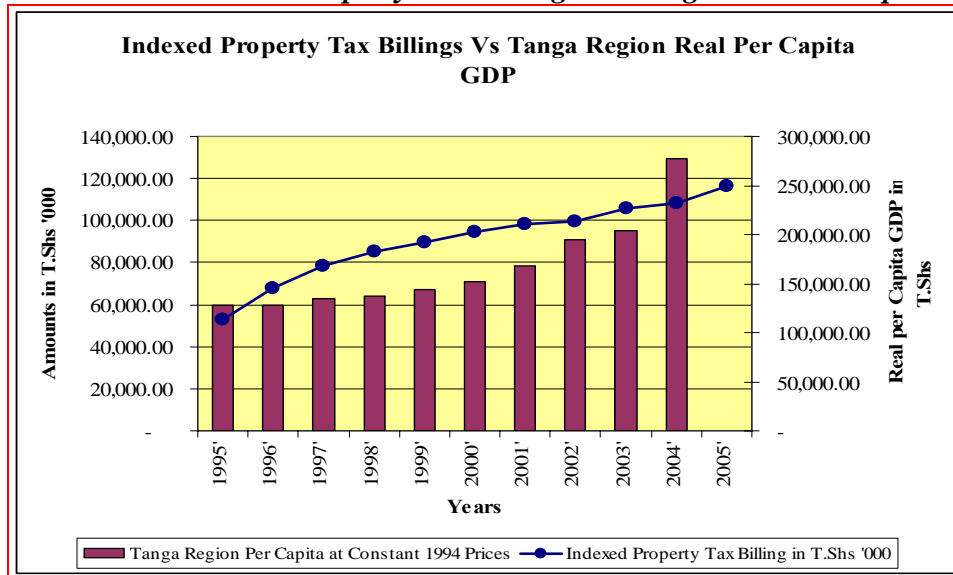
	94	95	96	97	98	99	00	01	02	03	04	05
Un-Indexed Property Tax Billings in T.Shs. '0,000,000		10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Rental Price Index (1994=100)	94.3	106.7	137.4	158.4	172.2	180.7	190.8	198.2	201.3	213.2	218.2	234.7
Inflated Property Tax Billings at Rental Price Index in T.Shs '0,000,000		11.3	14.6	17.0	18.3	19.2	20.2	21.0	21.3	22.6	23.1	24.9
Total Rateable Values in T.Shs @ 0.15%* tax rate		7.5	9.7	11.2	12.2	12.8	13.5	14.0	14.2	15.1	15.4	16.6

Source: Author (2006)

\* This is an average property tax rate for the period 1995-2005

Thus what is shown in the **Table 18** is a simulation of showing how property tax revenues (as represented by the billing) will respond, when property values are indexed to the RPI. Thus it is seen that property values as well as property tax billings will be constantly growing sufficient enough to catch up with current property values<sup>49</sup>. In such case property tax revenues generated will also be growing at a pace commensurate to inflationary erosion.

<sup>49</sup> Assuming that RPI is a pointer to property values.

**Chart 10: TMC Indexed Property Tax Billings Vs Tanga Real Per Capita GDP**

Source: Author (2006)

In the **Chart 10** above, an analysis was made to compare the model indexed property tax system to the Tanga region real per capita GDP. The aim is to assess whether such a tax can be afforded by taxpayers. The parallel growth depicted in the chart above between indexed property tax billings and real per capita GDP is a pointer that, such a tax system could not be distortional in terms of effective rate/real tax burden it dispenses to taxpayers.

#### 4.5 Statutory Powers of Local Governments to Administering Property Tax

In the previous section the study largely dwelt on assessing the technical and practical feasibility of adjusting some property tax administration components so that property tax revenues are tied to inflationary cycles. This section attempts to profile existing statutorily imposed limitations that may impinge upon the adaptation of property tax system to inflationary conditions.

##### 4.5.1 Tax Rates

It was seen in Chapter Two under **Para 2.8.3** that property tax rates could effectively be used to contain inflation. In Tanzania, the powers to impose rates<sup>50</sup> and taxes in general are provided for under **S. 13(1)** of the *Local Government Finance Act, 1982*. Implicit in this section, is the discretion of the local authority to make any such taxes and levies as deemed suitable. The setting of such rates and taxes has to be done by the Ministry responsible for Local Governments in conjunction with the Ministry responsible for Finance. The Minister after consultation with Minister responsible for finance is responsible for making rules, which prescribe limitations, and imposing conditions under which local authorities may make any such rates or taxes. **S. 14** provide that, Local Governments are mandated to make such taxes and rates adequate enough to cover for

<sup>50</sup> Taxes rates means a levy on property.

their respective expenditure. This provision is also re-iterated in the *Urban Authorities (Rating) Act, 1983 (UARA)* under **S.17**. However, the UARA further stipulates under **S. 16(2)** that, the local government choices of such rates has to be approved by a resolution passed on its behalf by the council and supported by not less than two thirds of all members of the council! Prima facie, local governments are at liberty to discretionary use rates to make up for their expenditure. It is inconclusive whether such apparent discretion could be extended to setting of property tax rates with view to keep inflation at bay. In practical terms, local governments have at best been setting property tax rates based on the annual deficit in their annual expenditure budget from other sources. Even with this criterion, it is statutorily ambiguous how far can local governments raise property tax rate with or without Ministerial approval.

#### **4.5.2 Valuation (Assessment)**

Section **22(1)** of the UARA establishes the basis of assessment of rateable value of taxable properties within the local government jurisdiction. According to the section, there are only two methods to property value assessment for tax purposes. These are, *Market Value Approach* and *Replacement Cost Approach*. The **S. 22(1)** reads as;

*“Subject to subsection (3) of this section, for the purpose of this section the rateable value of premises shall be the market value of premises or where the market value cannot be ascertained the replacement cost of the buildings, structures and other developments comprised in the premises.....”*

Whereas the subsection (3) of the same section reads as;

*“the Minister may by an order in the Gazette either generally or in respect of any particular authority prescribe a basis for the assessment of rateable value of premises other than prescribed by this section [S.22] and where any order is in force in respect of any authority this section shall not apply to that authority”*

With the above provisions, rise two questions. *First*; in a country where the property market is at its infancy, the Market Value Approach could almost certainly not be applicable, but instead it is relatively easier to gather information on rental prices: *why the legislation confines to only two approaches of assessment while it is known that practically only one method could be used?* All this against the fact that it is possible that Income Approach could be adopted with relatively ample data to achieves the same objectives. Further discussions into that area would be incompatible with the scope of this study.

*Second*; it is not discernible whether the option to circumvent the problems associated with undertaking regular re-valuation by indexing property values to any form of a fair index is permissible under these Acts.

#### **4.5.3 Enforcement for Compliance & Penalties**

The timing of payments of due taxes and consideration of adequacy of penalties are integral components of property tax administration that have to be reviewed if a tax has

to become inflation adaptive. It is therefore anticipated that legislations governing property tax should provide the maximum possible powers to local governments to enforce compliance and subsequent setting of inflation reactive penalties. Such provisions are given by the *Local Government Finance Act, 1982* under **S. 17(1) & (2)** which gives local governments powers to collect such revenues and **S. 20(1)** gives discretion to determine deadlines for payment of taxes and is complimented by the UARA under **S. 47**, stipulating for penalties it states;

*“Where any rate remains unpaid after the date on which the same become due and payable, interest may be charged and recovered thereon with effect from such date, not being less than fourteen days after the same becomes due and payable, as the local authority may, by notice in the Gazette specify. The rate of such interest shall be such rate, not exceeding one percentum, per month or part of the month, as the local authority may determine.”*

However this is in contrast to provisions of **S. 31(1)(f)** of the *Local Governments Finance Act, 1982* which provides that;

*“prescribing the penalty, which shall not exceed half the amount of the rate due and unpaid, which may be recovered under subsection (1) of section 20”*

This section could be construed to mean that in any case, penalties could not exceed half the accumulated property tax arrears.

It is palpable from existing legislations that provisions on important inflation reactive property tax are prohibitive or at best vague. Thus it draws attention that prior to embarking on adjusting property tax system to match with inflation; efforts must be made to comprehend the full implication of provisions of the legislations especially the ministerial powers over issues pertaining to such adjustments. If the provisions completely prohibit or are silent on these issues then deliberate attempts have to be made to amend the governing legislations.

#### **4.6 Conclusion**

This chapter has unveiled empirically that effective tax rate has been declining over time and that there is a risk that property tax may soon loose its role as local governments' major source of revenues. Of the three property tax administrative components, valuation ratio has exhibited to be above the rest in susceptibility to inflation. In other words, the principal cause of property tax inflationary obsolescence stems from lack of frequent valuations. Tax ratio has been proved that plays an insignificant role in denting property tax real revenues. Collection ratio analysed in a two thronged approach i.e. collection lags and resulting penalties. The study empirically proved that collection lags are far less serious than outdated valuation roll in denting TMC real revenue and that the level of penalties adopted by TMC was adequate enough to compensate for inflation. It has also been shown that indexing of property values to some form of index that would attach the valuation roll to pace of inflation is technically feasible without necessarily altering effective tax rates. The statutory provisions to warrant adjustments of property tax to inflation appear to be vague and at time to be at odds with perceived strategic adjustments needed to overcome inflation in property tax administration.

## CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS

### 5.1 Conclusion

This study aimed at studying inflationary characteristics of property tax and property tax revenues. As a reminder, the research problem was; “*unlike other forms of local governments’ revenues, property tax revenues are exposed to inflationary erosion leading to negative real revenue growth*”. The study was attempting to answer the following research questions; is there scope for improvement to make property tax revenues inflationary hedged? If there is scope to make property tax elastic to inflation, can the tax dispense the same real tax burden to taxpayers’? what is the real growth of TMC property tax revenues? and which component of property tax administration is more susceptible to inflationary erosion than others? (Tax Rates/Valuation/Collection).

In order to gain an insight of how to answer these research questions, the study explored available literature on related subject. Specifically, the study explored two-subject areas inflation and property tax. On the former the study explored the definition, concepts, measurement and impacts of inflation on tax revenues. In some cases archetypical cases of inflationary loss on tax revenues was shown. On the later, the study first examined the link between property tax revenues and inflation. Secondly, it examined how property tax administrative components behave under inflationary conditions in order to identify and eventually address the areas of weaknesses.

In analyzing the research data, the study compared the performance of property tax revenues against other locally generated TMC revenues between 1994-2003. The study findings showed that the contribution of property tax revenues to the TMC locally generated revenues is diminishing. The study examined the valuation ratio’s contribution to property tax real revenues decline. To measure this, the valuation roll (represented by billings) was corrected for inflation, and it was found out that the decline in property tax billings (resulting from outdated valuation roll) was substantial. Likewise, comparison was made between different property tax rates and both nominal and real property tax revenues. The aim was to establish the significance of tax ratio towards, decline of property tax revenues. Measured in both nominal and real terms, there were spurious correlations between tax rates and property tax revenues signifying that property tax are insignificant to property revenues growth or decline. Finally, the study compared the effects of collection-lags and valuation ratio to establish the relative contribution of these two components in reducing property tax real revenues. It was found out that valuation ratio decreases property tax real revenues more than collection lags. It was also established that penalties imposed on tax delinquents are adequate to recover for inflationary loss provided the rate of inflation remains under 24%.

Towards the end, the study compared the current and perceived (indexed) property tax revenues against Tanga region real per capita GDP to establish whether the existing or indexed tax could ultimately be afforded by taxpayers. It was found that, property tax could be indexed to the rental price index without altering the real tax incidence. The

relevant legislations governing property tax administration were revisited to explore if there are powers to adapt property tax to be inflation reactive. The study found that the legislations are prohibitive and at best vague on whether measures to adapt property tax to inflation can be implemented within the existing laws.

The study was done under the following hypotheses

*1. Under existing conditions, property Tax Revenues can effectively be hedged against inflationary erosion*

The hypothesis would be partly affirmed because it has been seen that practically tax ratio, collection ratio and valuation ratio can technically be adapted to suit inflation reactive property tax system. It was partly be affirmative in case of taxpayers real income cycles synchronization to real property tax revenues. There is a room to make inflation adaptive property tax without unintentionally increasing real tax burden to taxpayers. However, the study found that existing legislation governing property tax administration would impinge any attempts to make property tax revenues effectively hedged against inflation. Thus, local governments have no fiscal autonomy to improve inflationary characteristics of property tax because of the overshadowing ministerial powers representing the central government. Therefore, in its entirety the hypothesis is rejected because under existing conditions property tax revenues cannot be hedged against inflation.

*2. Valuation Ratio (Value assessment component of property tax administration) plays a leading role in denting real revenues of Tanga Municipal Council.*

The hypothesis has been affirmed because the study findings indicated that the valuation ratio component of property tax administration has deeper corrosive effects on TMC real revenues than any other property tax administrative components.

## **5.2 Recommendations**

Based on research findings, some recommendations are given so that various stakeholders can take into account when contemplating ways of revamping local governments' revenues. It is the opinion of the author that, there isn't single broad spectrum panacea to revitalize local governments' revenues other than individually improving each source of revenues whenever practical. Arguably, property tax is one of the leading and reliable sources of local governments' revenues. However, the study findings in chapter four have indicated that the role of property tax as a prime source of local governments' revenues is destined into oblivion. Any attempt to reinvigorate the *malaised* property tax yield is integral to achieving a broader goal of improving local governments' revenues prospects which is the aspiration of many stakeholders. This study provides some recommendation to various stakeholders for property tax administration in local authorities in an area that seems to be ignored and yet essential to complement these initiatives. These are;

- ❑ To acknowledge the scale of the inflationary corrosion problem and the need to scale down the effects it has on local governments' revenues prospects. As

it as now, inflationary loss of real revenues is either passively acknowledged and there are either no proactive measures to mitigate the problem or stakeholders are oblivious of the ramifications it could have on long term outlook of the property tax as a source of local revenues.

- ❑ The legal framework governing property tax administration should be in place and explicitly stipulate for areas in need for improvement. So far the existing legislations about property tax administration are either prohibitive or vague on the subject of initiatives to adapt property tax to inflation. Specifically the legal framework should focus at lifting the limits on the following property tax administrative issues;
  - The Act should not limit the method of valuation to only two methods i.e. market approach and replacement cost approach. The rental sector of property market has now ample rental price data that where possible may warrant the use of income approach to valuation. And where properties are owner occupied, imputed rent should be applied to determine property values.
  - Free up or rise up the ceiling for property tax rates that local governments may wish to adopt to curb inflationary loss and other objective.
  - Give more powers to local governments' to enforce compliance
  
- ❑ Lack of frequent valuations is the prime cause of decline in property tax real revenues and because re-valuation is very expensive, indexing of property values is the most ideal alternative. The rental price index is the most appropriate index that may be selected. The local rental price index data may be obtained at the National Bureau of Statistics who in collaboration with respective Regional Commissioners' offices prepares these indices. It is believed that indexing of property value could significantly improve property tax real revenues.
  
- ❑ Adopting realistic tax rates that reflect the state of the local economy. Existing property tax rates are too small. As evidenced in the study, despite the small property tax rates, local governments can continue to lower tax rates contrary to prevailing economic conditions.

### **5.3 Areas of Further Research**

It was pointed out in chapter one that this study has a limited scope on purpose i.e. to study one problem area rather than embarking on a multi-thronged research problem(s). Nevertheless, time and financial resources would not warrant undertaking an effective study without a well-defined scope. This study identified some interesting research area linked to this research subject to which answers should be sought.

From the nature in which property tax is administered in Tanzania, the decline in property tax revenues is so pervasive in many local governments. The magnitude of the



inflationary corrosion on property tax revenues is substantial to be noticed by any rational tax practitioner. Despite these compelling facts, no action is taken to redress the situation. Lack of active attempts to mitigate the problem from all stakeholders is surprising. Thus, despite the pervasiveness of the problem and its scale, no action is taken. The study to establish why there is no action at all is desirable. Is it because property tax is mired in many other problems that attention to inflationary loss is distracted? Does the scale of the problem not draw interest of various stakeholders? - the councillors, mayors, ministry responsible for local governments, researchers, donors to property tax reforms initiatives, etc. Were there any attempts made? If so where did they end up? Apparently there is main reason for inaction exhibited by various stakeholders not identified by this study. Are they complacent with status quo? Do they find adapting property tax to inflation like walking in the political landmines? Has the downward ratchet effects gone too far and by now it is too late and too little can be done to reverse the trend? What are practical obstacles that were not identified by this study?

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## Annex 1: Collection and Arrears in Different Countries

	Tax Arrears as a Percentage of Tax Levy
<b>OECD</b>	
Australia	n.a
Canada	Generally less than 5%
Germany	Less than 1%
Japan	2.6%
United Kingdom	4% for council tax; 2% for non-domestic rates
<b>Central &amp; Eastern Europe</b>	
Hungary	2-11% (includes only partial payments)
Latvia	n.a.
Poland	8% for legal entities and 9.5% for natural persons (Krakow)
Russia	Stock of overdue payables 69% of estimated annual flow of land tax payable
Ukraine	29%
<b>Latin America</b>	
Argentina	20-25%
Chile	4% in 1991 (owing to amnesty); 29% in 1990
Colombia	24.9% in Bogota <sup>1</sup>
Mexico	n.a.
Nicaragua	n.a.
<b>Asia</b>	
China	n.a
India	33-67% depending on state
Indonesia	9% (in urban areas); 15% (in rural areas)
Philippines	53% (cities); 46% (provinces); 23% (municipalities)
Thailand	n.a
<b>Africa</b>	
Guinea	26%
Kenya	40-90%
South Africa	n.a.
Tanzania	50-60% in Dar Es Salaam
Tunisia	45%

Source: Bird, M.R. & Slack, E. eds., (2004)

Note: <sup>1</sup> This is the ratio of the accrued liability relative to collections in 2001.

## Annex 2: Sample of Tax Rates from Eight Jurisdiction

**TABLE 13: TAX RATES FOR RATEABLE PROPERTIES ON THE VALUATION ROLLS FOR THE EIGHT PROJECT TOWNS AND THREE DAR ES SALAAM CITY MUNICIPALITIES**

Municipality	Tax Rate(s) for Properties in the Valuation Roll	Minimum amounts payable	Flat Rate payable (Residential minimum)
Arusha	0.5%	TSh 10,000	TSh 10,000
Iringa	0.1% for residential; 0.4% for commercial/industrial	Residential: TSh 6,000 Comm: TSh 20,000	TSh 3,000
Mbeya	0.5%	TSh 5,000	TSh 2,000
Morogoro	0.12% <sup>1</sup>	TSh 6,000	TSh 3,000?
Moshi	0.3% irrespective property use <sup>2</sup> (maximum for owner-occupied residential properties: TSh 6,000)	TSh 3,000	Surveyed: 300% of land rent Unsurveyed: TSh 2,000
Mwanza	0.15% (single-storeyed property) 0.6% (multi-storeyed property)	TSh 7,500	TSh 7,500 (permanent) TSh 3,000 (temporary)
Tabora	0.15%	TSh 3,000	Unsurveyed: TSh 3,000 (semi-perm)
Tanga <sup>3</sup>	0.2%	TSh 2,500	TSh 2,500
Ilala	0.15% for residential 0.2% for commercial	TSh 10,000	TSh 10,000
Kinondoni	0.15%	TSh 10,000	TSh 10,000
Temeke	0.15%	TSh 10,000	TSh 10,000

### Annex 3: GDP Deflators 1990 – 2005

Years	GDP Volume in TShs at Current Prices	%ge GDP Growth Rate at 1992 Constant Prices	Real GDP in TShs at Factor Cost at 1992 Constant Prices	GDP Deflators
1990	760,005.00	6.2	1,219,236.00	0.62
1991	989,594.00	2.8	1,253,134.00	0.79
1992	1,275,917.00	1.8	1,275,917.00	1.00
1993	1,607,763.00	0.4	1,281,006.00	1.26
1994	2,125,324.00	1.4	1,298,943.00	1.64
1995	2,796,642.00	3.6	1,345,246.00	2.08
1996	3,452,558.00	4.2	1,401,711.00	2.46
1997	4,281,600.00	3.3	1,448,090.00	2.96
1998	5,126,177.00	4.0	1,505,827.00	3.40
1999	5,977,699.00	4.7	1,577,292.00	3.79
2000	6,705,134.00	4.9	1,654,319.00	4.05
2001	7,624,616.00	5.7	1,749,358.00	4.36
2002	8,699,887.00	6.2	1,857,175.00	4.68
2003	9,816,319.00	5.7	1,962,432.00	5.00
2004	11,287,319.00	6.7	2,094,516.00	5.39
2005	13,063,317.00		2,237,079.00	5.84

**Source:** National Bureau of Statistics (2006)

*“If GDP Deflators is rising it implies that prices are rising and vice versa”*

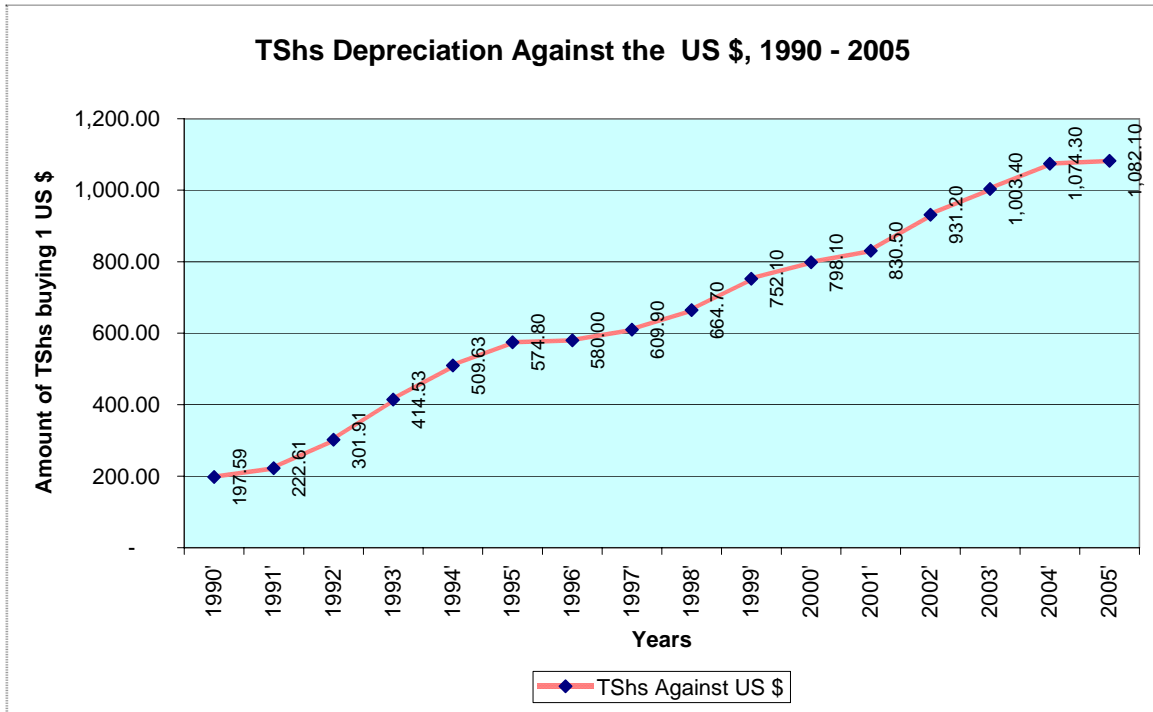
GDP at Current Prices

=GDP Deflators

GDP at Constant Prices



### Annex 4: Depreciation of T.Shs Against US Dollar, 1990 – 2005



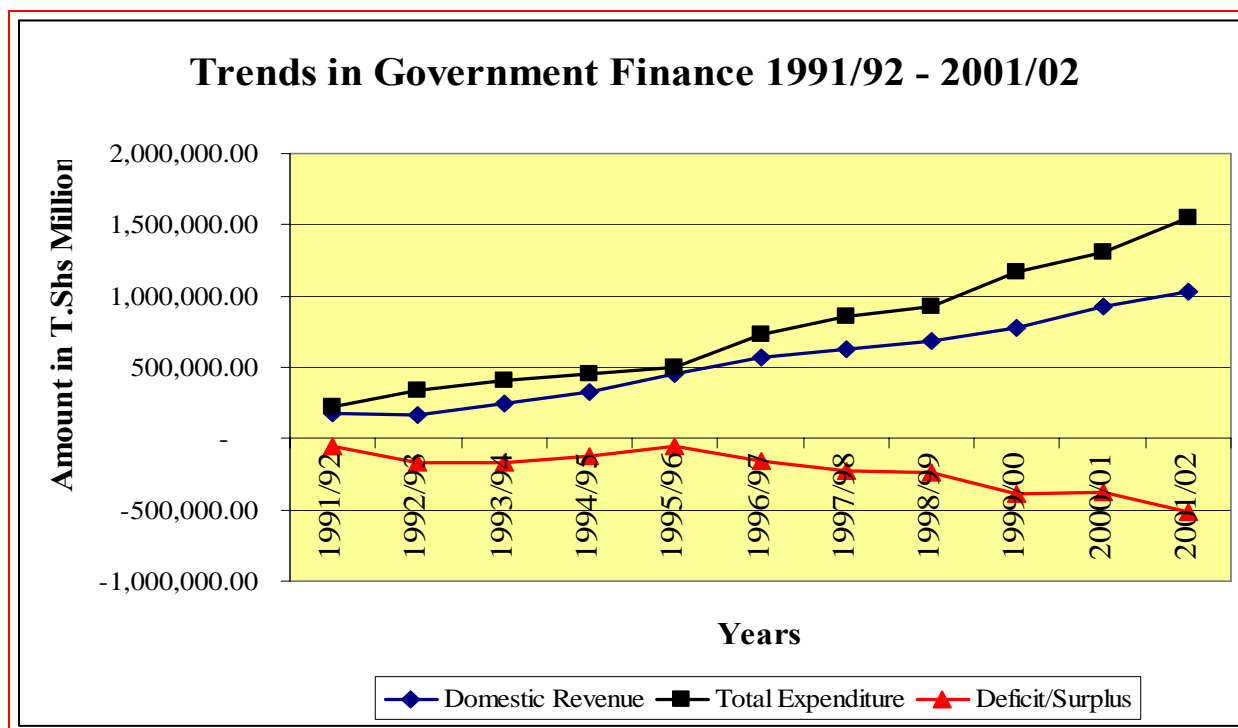
Source: National Bureau of Statistics (2006)

**Annex 5: Trends in Government Finance, 1991/92 -2001/02**

Years	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99	1999/00	2000/01	2001/02*
Domestic Revenue	173,566.00	164,109.00	242,444.00	331,239.00	448,373.00	572,030.00	627,500.00	689,325.00	777,644.00	929,625.00	1,026,084.00
Total Expenditure	223,770.00	337,895.00	410,533.00	453,393.00	500,116.00	730,878.00	856,177.00	927,732.00	1,168,778.00	1,307,214.00	1,545,644.00
Deficit/Surplus	-50,204.00	-173,786.00	-168,089.00	-122,154.00	-51,743.00	-158,848.00	-228,677.00	-238,407.00	-391,134.00	-377,589.00	-519,560.00

**Source:** The President’s Office – Planning and Privatization (2002)

\* Based on likely outturn



**Source:** The President’s Office – Planning and Privatization (2002)

**Annex 6: National Consumer Price Index (NCPI) Weighing, 1994=100 (December)**

		<b>General Index</b>	<b>Food</b>	<b>Non- Food</b>	<b>Rent</b>	
	<b>Weight 1</b>	<b>100</b>	<b>64.2</b>	<b>35.8</b>	<b>4.9</b>	
1993		67.8	63.8	74.9	40.1	
1994		90.2	88.8	92.8	94.3	
1995		115.8	115.1	117.0	106.7	
1996		140.1	138.6	142.7	137.4	
1997		162.6	162.8	162.4	158.4	
1998		183.5	186.7	175.3	172.2	
1999		197.9	203.1	185.0	180.7	
2000		209.7	216.9	191.4	190.8	
2001		220.4	230.1	196.1	198.2	
	<b>Weight 2</b>	<b>100</b>	<b>71.2</b>	<b>28.8</b>	<b>3.9</b>	

Source: National Bureau of Statistics/Bank of Tanzania (2006)

**Annex 7: TMC Locally Generated Revenues at Current Prices, 1994 - 2003**

Year	Property Tax	Trade License	Market Rent	Development Levy	Hotel Levy	Service Charges	All Others	Total Self Generated Revenues	Yearly Budget	Percentage
1994'	76,881,078.00	41,985,246.00	27,585,890.00	15,860,795.00	12,020,528.00	76,941,558.00	85,269,003.00	336,544,098.00	277,954,104.00	121.00
1995'	91,353,684.00	60,043,352.00	32,891,700.00	23,837,815.00	14,673,224.00	82,987,692.00	125,288,847.00	431,076,314.00	404,168,300.00	107.00
1996'	79,771,868.00	62,456,055.00	37,270,099.00	35,455,058.00	12,708,642.00	143,024,309.00	192,287,763.00	562,973,794.00	641,119,520.00	88.00
1997'	85,345,653.00	84,083,180.00	43,254,955.00	60,939,925.00	12,504,132.00	125,775,336.00	164,158,152.00	576,061,333.00	922,480,120.00	62.00
1998'	85,545,481.00	83,434,108.00	48,695,657.00	59,311,968.00	18,111,254.00	148,597,839.00	144,442,000.00	588,138,307.00	849,400,900.00	69.00
1999'	104,000,000.00	90,234,564.00	43,972,990.00	54,899,737.00	16,949,710.00	176,884,949.00	253,534,971.00	740,476,921.00	869,201,500.00	85.00
2000'	75,510,155.00	127,164,090.00	33,613,800.00	57,046,264.00	11,960,692.00	134,020,967.00	240,548,449.00	679,864,417.00	891,142,000.00	76.00
2001'	85,957,437.00	148,169,622.00	42,191,740.00	50,629,433.00	11,155,791.00	193,284,241.00	173,568,862.00	704,957,126.00	860,901,200.00	82.00
2002'	47,173,824.00	155,469,122.00	42,959,305.00	35,748,266.00	9,873,952.00	242,320,581.00	217,784,320.00	751,329,370.00	1,032,875,000.00	73.00
2003'	120,713,169.00	158,044,835.00	40,962,300.00	3,389,655.00	10,007,743.00	297,959,890.00	199,316,243.00	830,393,835.00	828,568,040.00	102.00
	103,134,987.00	10,603,617.00	10,461,800.00		5,302,715.00	213,039,742.00	85,875,424.00	428,418,285.00	384,098,000.00	112.00
	18,606,145.00	2,690,000.00	6,273,700.00		2,173,543.00	110,402,118.00	40,612,116.00	180,757,622.00	212,442,350.00	84.00
	110,000,000.00	5,000,000.00	15,000,000.00		3,000,000.00	200,000,000.00	100,088,450.00	433,088,450.00	428,884,500.00	100.00

**Source:** Tanga Municipal Council (2006)

### Annex 8: Comparison of Corrosive Effects of Outdated Valuation Roll and Collection Lags to TMC Property Tax Real Revenues Growth

Years	95	96	97	98	99	00	01	02	03	04	05
Uncollected Property Tax at Current Prices in '000,000 T.Shs	8.1	23.1	14.7	15.0	30.7	42.0	43.3	74.2	53.6	24.4	9.7
Uncollected Property Tax at Constant 94 Prices in '000,000	6.3	14.9	8.2	7.4	14.0	18.1	17.7	29.0	20.3	8.9	3.4
Collected Property Tax Arrears at Current Prices in '000,000 T.Shs	-	-	-	-	-	-	0.6	82.7	13.8	13.2	3.8
Collected Property Tax Arrears at Constant 94 Prices '000,000	-	-	-	-	-	-	0.3	32.4	5.2	4.8	1.3
Uncollected Property Tax Arrears (Bad Debt, >12months) at Constant 94 Prices in '000,000	-6.3	-14.9	-8.2	-7.4	-14.0	-18.1	-17.4	-3.4	-15.1	-4.1	-2.1
Surplus/Shortfall of Property Tax Billing due to Outdated Valuation Roll in T.Shs '000,000 (from Chart 4)	-	-15.5	-22.4	-28.7	-9.5	-13.4	-16.5	0.4	-2.3	-33.6	-29.2

Source: Author (2006)