

AN ANALYSIS ON THE IMPACT OF INFORMAL GROWTH ON TAX
PERFORMANCE A CASE OF ZIMBABWE: 1985 TO 2013



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DEDICATIONS

I dedicate this thesis to my dear husband Eng. Matiropafadza Mashango, and my daughters Matipanyasha, Ruvimbo and my only son Matiropafadza Jr.

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It is believed that one finger cannot pick a stone. Several people supported me in various ways to make this work successful. The Almighty God the source of my strength when God says yes who can say no. Thank you Lord for carrying me through this process

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ABSTRACT

The informal sector in Zimbabwe is among the most buoyant sector yet contributes marginally to tax revenue collection. There are views that taxation evasion is huge due to lack of knowledge and information and heavy costs of compliances resulting from their varieties and sizes. There seems to be a consensus that African governments and their tax authorities have to put more effort to bring the informal sector into the tax bracket. The aim of the study is to identify the impact of informal sector growth on tax performance in Zimbabwe based on time series analysis of data from 1985 to 2013. The study also seeks to observe if informal sector growth increase tax revenue. Identifying the relationship between informal sector growth and tax performance will help out to improve the tax base hence economic development.

Econometrics views 7 (e-views 7) was used to estimate a log linear model for tax performance in Zimbabwe. The study established that although the informal sector growth has a positive coefficient its contribution to tax revenue is insignificant. moreover there are other variables which significantly contribute to tax revenue which includes share of mining, share of manufacturing and share of construction.

The study recommends that Government should prioritise the formalisation of the informal sector. Therefore efforts needed by governments are to widen the tax base and will greatly increase revenue leading to a reduction in the reliance on donor funding and also on incidences where governments are forced to increase taxes on basic commodities. Informal sector has a significant employment, income generation potential and stimulation of social economic growth.

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ACRONYMS

GDP	Gross Domestic Product
RBZ	Reserve Bank of Zimbabwe
ZIMRA	Zimbabwe Revenue Authority
ILO	International Labour Organisation
GNP	Gross National Product
CZI	Confederation of Zimbabwe Industries
VAT	Value Added Tax
HTT	Hard To Tax
SME	Small to Medium Enterprise
SSA	Sub Saharan Africa
TOT	Turnover Tax
FIAS	Foreign Investment Advisory Service
AIT	Advance Income Tax
MSMEs	Micro, Small and Medium Enterprises
OLS	Ordinary Least Squares
IMF	International Monetary Fund
Zimstats	Zimbabwe Statistical Agency

CHAPTER ONE: INTRODUCTION AND BACKGROUND

1.0 Introduction

Taxes are the main source of finance for government expenditure. In the past few years the informal sector has hastily grown in Zimbabwe and hence become fundamentally important to economic and social prosperity of the country. A 2013 FinScope survey, which is now being used by government officials as reference, indicates that 2.8 million micro, small and medium businesses 85 percent of which are unregistered have created 5.7 million informal jobs. These businesses generate an estimated turnover of 7.4 billion dollars, according to the survey (fingaz 2014). In spite of this increase, there has been poor performance by the informal sector in terms of contribution to the fiscus and compliance to tax obligations. Most African countries are losing out on this crucial source of revenue yet the informal sector contributes greatly to their GDP.

Feige (1982) defines the informal sector as 'all economic activity which because of accounting conventions, non-reporting or under reporting escapes the social measurement apparatus, most notably the GNP accounts'. The 1972 ILO report on Kenyan unemployment was the first step to popularise the informal sector concept ,the report defined the informal activities as 'all economic activities that are neither monitored nor taxed by the government, and are not included in the government GNP statistics ' (ILO 1972:4). The sector is informal in the sense that actors are mostly un-registered , so mobile, small scale not recorded in the official statistics, have little or no access to the formal markets for goods and services to mention a few.

Economists argue that Zimbabwe's unemployment rate is very high with unemployment rate being exceeding 80% because of a collapse in economic production capacity. As a result of such high unemployment rate the informal sector activities has been escalating. A greater number of traders in Zimbabwe engage in a number of activities depending on the country's locality. Taking for instances in Harare traders are into a range of businesses such as shuttle transport, furniture manufacturing, hair salons ,grocery sell ,fruits and vegetable sell among others The informal sector comprises both legal and illegal activities. In the urban areas informal traders consist of street vendors and service providers of "every need imaginable" (Chambwera, 2012: 1). In the rural areas, informal players produce goods for subsistence and include a number of small-scale enterprises.

In an approach to enhance revenue collections nations have been constantly strategise their tax systems. In 2005 Zimbabwe introduced Presumptive tax. Presumptive tax is charged at the rate of 10%. In 2011 ZIMRA imposed Presumptive tax as a way of broadening the tax share in response to ever-increasing informal business activities (Zimra, 2011). The target was on all the traders who were operating in the informal sector such as operators of transport, saloons, restaurants, bottle stores and cottage industry. These sectors were targeted to ensure they register with the authority and become in the data base of ZIMRA. Furthermore the introduction of the Presumptive tax was to confine unregistered informal traders to comply with tax regulations and also to reduce formal sector's yoke (ZIMRA bulletin 2011). Revenue contribution to the fiscus has been seen to be very much insignificant despite the introduction of presumptive tax. This can be explained by the fact that compliance is very low down. This is statistically revealed by a 3% revenue collections for 2010 compared to a 60% contribution to Gross Domestic Product for 2010" (Institute of Certified Tax Accountants, 2011)

Alm, Martinez-Vazquez (2003) highlighted that presumptive tax comes into play when the revenue collectors cannot rely on self-assessments because of false information given and hence administrative assessments become an obligation. Presumptive taxes therefore address the issue of tax evasion and widening the tax base. In an evaluation done by Slemroad et al (1994) presumptive tax was seen as vital in situations where tax authorities find it complicated to determine, authenticate and supervise traders activities.

1.1 Background

A traditional analysis of Zimbabwe's informal sector shows that at independence, the informal economy accounted for less than 10% of the labour force. But with time Zimbabweans become more educated and the economy gradually declined resulting in about 4 million Zimbabweans earning their livelihood in the informal sector by 2005 .The size and role of the informal sector has been found to increase during economic downturns and periods of economic adjustment and transition. The implementation of the Economic Structural Adjustment Programme (EASP) in 1991 by the Zimbabwean economy greatly contributed to the growth of the informal sector. Millions of people lost their jobs through retrenchments at the same time the formal job market shrunk creating conditions for the expansion of the informal sector.

In November 2000, Confederation of Zimbabwe Industries analysed that 1.7 million populace were engaging into formal economy activities. Additionally in 2000 the number of workers who were retrenched were 9 684 whereas in 2002 about 90 000 people were left unemployed. With these large numbers of workers being left jobless the only option was to join the shadow economy. Moreover the number continuously sky rocketed during the era of hyperinflation as more businesses continued to close and a lot of people became unemployed obliging them to become part of the informal sector. Retrenchment, low pay on formal jobs, inflation, and currency devaluation has resulted in an increase in the informal sector (CZI newsletter 2012). The informal sector has go beyond the formal economy

The Zimbabwe National Statistics Agency (Zimstat) in a 2011 Labour Force and Child Labour Survey (LFCLS) acknowledges the informal economy is the major employer of the working population in Zimbabwe (aged 15 years and above). This means that about 5.4 million or 84% are employed informally with only 11% being in formal employment and 5% in employment not classifiable. Sixty-nine percent (69%) of the informal sector employees are in the expansive age group of 20 to 39 years. Fourteen percent (14%) are in other services and manufacturing, respectively, adding to 28% both. Unemployment rate, of over 80% is attributed to the decrease in economic activities (the standard 4 November 2012).

Ninety percent (90%) of poorer developing countries is informal employment. According to estimates by the International Labour Organisation (ILO), 1.8 billion, compared to 1.2 billion (formal sector) people are employed in the informal sector. Considering the distribution of the informal sector it is evident that 85% of the informal sectors are educated all has attained primary or secondary education. The 2011 ZimStat survey statistics indicated that of the 5.4 million of the employed populace, those who were considered to be in informal employment were 4.6 million which is (85%). Other statistics indicated that 606 thousand (11%) were formally employed the other 252 thousand were in employment which was not classifiable thus (4%).

Due to the total size of Zimbabwe, it is difficult for the Ministry of Finance and Economic Development and the Zimstats to have reliable data on the membership and activities of the informal sector. Practically, it is almost impossible to determine the income of those in the informal sector because they are mainly self-employed and therefore the greater part of the

real income cannot be satisfactorily assessed. As a result, majority of the informal sector have been the worst in complying with tax regulations.

According to Schneider (2002) small businesses are a unique phenomenon for the tax system. Small businesses are the major contributors to the informal economy operating outside the tax net. Their characteristics and also their tax compliance attitude vary significantly. Small businesses form the core group of hard to tax taxpayers. The informal sector in Africa as a percentage of GDP was 42% in 2000 and accounted for 48% of the official labour force on continent, Zimbabwe, Tanzania ,and Nigeria had by far the largest informal economies with 59,4% ,58,3% and 57,9% respectively.(Quarterly newsletter of the tax justice network Africa vol3 2012). According to Joshi and Aye (2008) research has indicated that the revenue lost from not taxing the informal amounts to 35-55% of the total tax revenue in some countries.

This project seeks to investigate the impact of informal sector growth on tax performance, the reason why the informal economy is contributing very little to the fiscus and why tax collections remain very low considering the ever-growing of the sector. Furthermore the research shall be focused on the reason why the informal sector do not comply with tax regulations and recommend ways that can be implemented so that maximum benefit can be derived from their contribution to the country's fiscus through payment of taxes.

1.2 Problem statement

Zimbabwe's tax administrators have been faced with major challenges of failing to levy and collect taxes due to unwillingness of the informal sector. The country's economy is largely dominated by informal sector and underground economy, which provides an additional challenge for tax administrators; hence the fiscal gap that arises from failure to levy tax becomes quite large. The shift of the economy from being formal to being highly informal in the country has resulted in the informal sector playing an important role in the economic and social development of Zimbabwe. This sector however is characterized with high rates of non-compliance to taxation regulations which include smuggling of dutiable goods through ports of entry and undesignated points and not remitting taxes to fiscus. Like any developing country, taxing the informal sector in Zimbabwe is a phenomenal task. This study aims to find out if the growth of the informal sector has a positive or negative impact on tax

performance and provide solutions which will enhance revenue collection thus resulting in increased flow of income to the fiscus.

The study therefore seeks to answer the following questions

- Is the informal sector adding value to the fiscus considering its growth in Zimbabwe?
- Is the informal sector worthy taxing?
- What measures if any can be employed to ensure that the informal economy contribute to the Zimbabwean revenue fund and the outcomes of such interventions?

1.3 Objectives

This paper investigates the impact of the growth of informal sector to the tax performance in Zimbabwe with the objective of finding ways to increase compliance resulting in a broader revenue base for the country. The study also seeks to recommend policies to the Zimbabwean economy so as to enable the informal sector contribute more to the fiscus. to this end the specific objectives are to:

1. Investigate the various ways through which the informal sector can contribute to the revenue consolidated fund.
2. Analyse the extent to which the tax /GDP ratio can possibly increase over time considering informal sector growth?
3. Examine the possible ways of taxing the informal?
4. Critically investigate the extent to which taxing the informal sector can be a priority to the government?
5. Put forward recommendations of finding ways of ensuring that the informal sector contributes to the fiscus.

1.4 Rationale of the study

More has been emphasised on tax reforms and tax evasion and in developing countries especially Zimbabwe very little has been done on the growth of informal sector and its impact on tax performance hence the need for the current study. This study will also trace the evolution of the informal sector in Zimbabwe thus exploring the economic forces within

developing countries and the external conditions which are leading to the build-up of informal sector and thus focuses attention on the tax authorities, the government and other countries, examining the roles played by the different organizations and associations in curbing the problem as it appears that there are several things influencing the taxpayers behaviour.

Furthermore it has been my desire to investigate the impact of informal sector growth on tax performance. This research is important to the nation because it is aimed at improving revenue inflow into the fiscus for economic development. In addition the research will aid in smoothening the research skills of the research as a learning process.

1.5 Research questions

1. What are the various ways in which the informal sector can contribute to the fiscus?
2. To which extent does the tax/GDP ratio increase over time?
3. What are the possible ways of taxing the informal sector?
4. What is the extent to which taxing the informal sector can be a priority?

1.6 Hypothesis testing

The study hypothesizes that the growth of informal sector is insignificant in determining tax performance in Zimbabwe.

1.7 Organisation of the study

This chapter presented the introduction, background, the research objectives, research questions, problem statement and the significance of the study. The chapters that follow are organised as follows chapter 2 presents the literature view Chapter 3 presents the methodology. Chapter 4 presents the results of the study and chapter 5 presents the findings, policy recommendations and suggestions for further research.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

This chapter explores the various theoretical foundations underpinning the study of informal sector and tax performance using existing literature from previous researches. In this chapter relevant empirical findings from developed and developing economies will be emphasized.

2.1 The informal sector and taxation

The informal sector is defined as activities that are “not recorded or imperfectly reflected in official national accounting systems” (Losby, Else and Kingslow, 2002 p2). The initiative of the informal sector was propounded by International Labour Organisation (ILO) in the Kenya mission report of 1972. The Kenyan report of 1972 describes the informal sector as a way of conducting business informally (ILO 1972). Thus informal sector is categorized by six characteristics which include firstly there is ease of entry as a result of low barriers to entry.

Secondly due to lucrative competition in the market the informal sector is unregulated its not legalised. Thirdly there is dependence on indigenous resources innovation and creativity of entrepreneurs as they have either limited or no access to resources and are dependent on their resourcefulness for their survival. Fourthly there is massive demand for informal establishments including their products, convenience in location as well as job creation. Fifthly the informal sector activity includes small scale operations from entrepreneurs whose skills are acquired outside the formal sector and lastly informal activities is usually labour intensive which is a result of limited resources and an inability to access capital (Kuchta – Hebling 2000).

The conception of the informal sector covers a wider range of labour market activities (Vahapassi 2004) that combine three various groups of traders with different intentions. The first group consist of traders who are unable to find employment opportunities in the labour market and resort to entering the informal sector for survival. It is not an option for traders to engage in the informal sector rather it is a necessity. Given an opportunity for formal employment traders will more than likely abandon their informal sector activities in favour for formal employment (Pedro and Erwan 2006 p1548).

The second group of entrepreneur penetrate the informal sector in order to avoid the legal implications which are associated with operating in the formal sector economy. They enjoy

the autonomy, flexibility and freedom enjoyed by the informal sector (Williams and Nadin 2010). To the informal traders one of the greatest incentives of not registering their business is to avoid paying taxes to the government. The only unlawful characteristic of informal sector activity is that the entrepreneur who operates in it declares either partial amount or no amount of their monetary transactions when they should be declared (Chen 2007). The last group consist of entrepreneurs who include those who operate in the criminal economy and are considered unlawful and illegal. It comprises of underground activity and includes crime and corruption. These activities are not registered by statistical offices (Pedro and Erwan 2006). Therefore for the purposes of this research the last group will be excluded.

According to a study done by FIAS (Foreign Investment Advisory Services of the World Bank Group (2007) internationally it has been recognized that the informal sector plays an important, if not critical role in the economic and social development of a country. Developing countries have an informal sector representing an average ranging between 40% to 60% in some countries (Schneider, Buehn and Montenegro, 2010). Informal sectors is characterised by various small, informal traders that may not be efficiently brought into the tax net (the cost of collection is high and revenue potential limited).

According to Tanzi (1982&1999), the key determinant factor for the increase in informal activities is the rise in tax and social security's burdens. The increase in tax rates forces people to involve in activities where they can earn more income and pay less tax. Schneider and Enste (2000) found out that the bigger the difference between the total cost of labour in the official economy and after-tax earnings, the greater the incentive to avoid this difference and work informally. The difference mainly depends on the social security system and the overall tax burden.

Johnson et al (1998) observed, inter alia, that countries with more regulation tend to have higher share of unofficial economy in total GDP. Friedman, *et al.* (1999) proved that more regulation is correlated with large informal sector, while Johnson, Kaufmann, and Zoido-Lobóton (1998) found out that countries with better rule of law tend to have smaller unofficial economy, and transitional countries have higher level of regulation leading to higher bribery incidence, tax rate on official activities and large discretionary framework of regulation and consequently large informal activities (Kemal 20j07)

To understand the conception of informal sector economy it is important to first look at the size of the informal sector. Adeyinka (2006) postulated that the informal sector economy depends on small scale individual entrepreneurs in which the size of informal sector economy fluctuate from the estimated 4% to 6% in the high income economies (developed countries) as compared to over 50% in the developing countries. As highlighted by Williams and Nadin (2010) wealth urban areas 58% of early stage entrepreneur participate in informal sector operations in contrast with 84% in poor rural areas. In developing economies the explanations behind the significant size of this economy varies from retrenchments in the formal sector, unavailability of employment including government inability to create employment, early retirements packages given by the civil services and parastatal organisations, urban migration and illegal immigration (Adeyinka 2006). Ligthelm (2006) explained the rationale for the exponential growth and development of the informal sector as the elimination of influx control and the withdrawal of regulatory measures by government institutions which enable entry and operation relatively easy in the informal sector (Ligthelm 2006 p50)

The significance of the informal sector activities in the GDP has been documented by the researchers integrating the public sector and private sector. Statistically the informal sector provides ten jobs for every one job provided by formal sector employment however as viewed by Ayedinka (2006) the informal sector is not sustainable. The informal sector is estimated to account 75% of the total employment in Sub Saharan Africa. In Southern Africa the chief economic activity in the informal sector is mainly retail trade and most traders control stalls, kiosks or hawk goods as part time or full time activity by both males and females (Ayedinka 2006). Even though most transactions within the informal sector may not exist within the sphere of influence of the official statistics neither are these transactions known to the tax authorities they are still subject to the rules of the market representing a linkage between the formal sector and the informal sector. The demand, supply, price and quantities of the good and service in which the informal sector operations adhere to are determined by the rules of the market linked to the formal and informal sector (Daniels 2004).

Researchers argues that taxation is necessary to provide the national government with the funds for public sector expenditure and benefit this includes the provision of social and

economic service to citizens in the public as well as the private sector. In its current position it is crucial that Zimbabwe increases its revenue by broadening its taxation base to enable government structures to perform their duties effectively this may require an exploration of taxation opportunities in the informal sector provided that the increase in revenue adds value to the entrepreneurs operation in the informal sector .

When taxes are analysed, their levels and composition are often presented as ratios to gross national income (GNI) or gross domestic product (GDP). Such measures provide an indication of the size of the government sector as well as the tax burden. By comparing the ratios for different countries, some indication can be obtained of whether a country can raise more taxes without burdening its taxpayers unjustifiably. In this study there will be no comparison with other countries since the main objective is to analyse the impact of growth of the informal sector. Using an index of relative tax effort, the tax capacity and performance of a particular country can be determined. This static measure of performance will enable one to judge whether tax levels are too high or too low (Ligthelm 2006).

Basically coming up with a tax design for the economy is of paramount importance. A huge challenge for the governments is to come up with a suitable tax design for economic markets with a large informal sector (Emrand and Stiglitz 2005). According to Broadway and Sato (2008) the substantial size of the informal sector in rising market economies advocate that the broad base tax such as the VAT may be ineffective since it increases the cost of production. Majority of traders in the informal economy evade tax at all cost. Studies have shown that the predominant features in the informal sector are tax evasion and unregistered labour. In his study Feige (1989) describes the informal sector a highly entrepreneur sector that proficiently escapes responsibilities include taxation, he went further to explain that the informal sector has also been labelled as a distabiliser of a country's socio economic model by denying government of its lawfully revenues and illegally reallocating income from the faithful to the unfaithful citizens (Feige 1989).

Rogerson (2007) argues that the market grounds for both informal and formal sector is not fair. He argued that the informal sector does not receive the same services provided to the formal sector. Diamond and Mirrless (1997) viewed taxation as the price paid to buy the benefits in the form of services rendered by the government. However The world bank (2012) disagrees with Feige (1989) disputing that by not paying taxes the informal sector is not

necessarily evading tax it is safeguarding its income and consequently its activities is considered as coping and survival activity and not illegal business.

The most possible solution to tax the informal firms is to strengthen enforcement this is done by identifying small informal sector firms and ensuring compliance. It may be also strengthened by the use of additional incentives for compliance, such as reduced rates of tax or rewards given to small firms that maintain effective records, despite the fact that both types of measures can increase the overall complexity of the tax system and create incentives for small firms to remain, or appear to remain small (ITD 2007, Loeprick 2009).

While strengthening enforcement of formal sector taxes may be appropriate for larger firms within the informal sector, for very small firms the administrative costs for the government are likely to be extremely high relative to potential revenue, while also imposing high compliance costs on small firms and presenting the risk of harassment and abuse. As a result, developing countries have overwhelmingly opted to establish relatively high thresholds for both Value Added Tax and income taxes so as to exclude most small and micro businesses, which are instead captured by presumptive tax regimes.

Loeprick (2009) propounded that taxing small informal sector firms is hindered by two factors that is high costs of collection for tax administrations and high compliance costs for small taxpayers. Many countries apply presumptive taxes to small firms and Zimbabwe is included in that category. In order to simplify record keeping for firms and the estimation of tax liabilities by tax collectors the taxes uses a simplified indicator of the tax base. While presumptive taxes share this basic cohesion, their particular tax design is highly variable across countries. Loeprick (2009) outlines the available options for presumptive taxation, whilst Bird and Wallace (2003) provided a number of country examples, paying particular attention to transition countries.

Presumptive tax regimes are extremely widespread, though they differ across countries in their specific features. Taking for example in Ethiopia, instead of being subject to income tax and Value Added Tax (VAT), mid-sized firms are required to pay a presumptive tax on income (based on turnover) as well as a 2 per cent tax on turnover instead of VAT. Kenya levies a 3 per cent flat rate on turnover to replace both income tax and VAT. Tanzania operates a scheme in which tax is a progressively increasing proportion of turnover, and those

without adequate records are penalised by paying a larger amount. In Ghana the government operates a flat rate turnover tax of 3 per cent for small firms to replace standard VAT, while micro businesses are covered by a tax stamp regime, in which a fixed tax is paid on a quarterly basis (Prichard 2009, 2010).

There exists an imperative trade-off in the selection of tax systems. As highlighted by Prichard (2009, 2010) the use of a tax base that is closer to the generally applicable tax base improves horizontal equity, and reduces any incentive for the firm to stay in the presumptive tax regime once they have developed the necessary skills to comply with the standard tax regime. As some measure of size is the normal criterion for inclusion in the presumptive regime, this can reduce firms' incentives to grow. The intention of many presumptive regimes is to deliberately trim down the tax payments of smaller firms thereby increasing the problem of firms not wishing to graduate onto the standard regime when they are in shape and also making large firms to appear smaller. (Prichard 2009, 2010)

Russian and Ukraine in a way of upgrading its tax scheme have recognized a basic taxation system called hard to tax (HTT) this was to target all informal institutions (Feige 1989). The purpose of the HTT system was to generally reduce the compliance burdens which arise from complex taxation systems. In accordance with Feige (1989) the HTT system was also meant to encourage the growth of small businesses whilst providing these tax payers with basic education to enhance their taxation knowledge in the hope that they will eventually graduate to become members of the regular business tax system. The objectives of HTT special tax regime are to discourage the growth of informal sector and to increase the revenues from this sector to ultimately equalize the tax burden between informal and formal sectors Feige (1989). Conversely Feige (1989) argues that the HTT regime does however adequately incorporate the activities in the informal sector.

Burkina Faso is viewed also as an emerging market economy with a significantly large informal sector. As a way upgrading of its revenue system, Burkina Faso recently implemented a different tax bracket directed towards the informal sector in an attempt to collect income from the informal sector and the World Bank accordingly endorsed the development (Ihrig and Moe 2001). As a rule of thumb developing economies are characterised by weak tax administration and inefficient implementation techniques causing

considerable obstacles in adopting. In essence adding a new tax system requires both information and special skills to administer effectively .

In Africa tax revenue constituted about 24% of GDP in 2005, and this ratio declined to only 4% in 2008. According to a study done by Economic Commission for Africa, (2007) total revenue as a percentage of GDP is suppose to be greater than 20% .Lotz and Morss (1967) in his study ascertained that determinants of the tax share were trade share and per capita income, Piancastelli (2001) also argued that the findings has holds more water. Chelliah (1971) identified the explanatory variables that determined tax revenue and this included agriculture share, mining share and non-mineral export ratio.

Tanzi (1992) also revealed that variation in the tax revenue is determined by agriculture share, per capita income, foreign debt share and import share. Other various researchers considered the significance of institution factors in the determination of revenue share. Bird, Martinez-Vasquez and Torgler (2004) established that institutional factors that includes rule of law, corruption and entry regulations have an impact on tax share. Tanzi (1981) publicized that non-mineral export share and mining positively influence tax share in Sub-Saharan African economies.

Leuthold (1991) employed panel regression and the results were negative relationship between tax share and agriculture as well as a positive relationship between tax share and share from trade. In a comparable study, Stotsky and WoldeMariam (1997) discovered that share of mining and share of agriculture had a negative impact on tax share at the same time per capita income and export share had a positive result. In addition their results showed that tax ratio and IMF programs had a weak positive relationship. Ghura (1998) observed that tax share increases with income as well as international trade and decreases with agriculture share. Furthermore his study highlighted that there are other factors such as structural reforms, corruption as well as human capital development that have an impact on tax ratio. To be precise corruption has a negative impact on tax ratio whereas increase in structural reforms is linked to a positive increase in tax share. Higher level of human capital is positively linked to tax ratio. In a research done on Arab countries, Eltony (2002) estimated that for oil exporting countries the share of mining had a positive influence to tax share although a negative influence to non-oil exporting countries.

The performance of informal sector has a major impact on the performance of the wider economy. Despite the sector not falling under the ambit of the tax man, the sector indirectly contributes some significant amount to the consolidated revenue fund through Value Added Tax. Given that the informal sector employs a significant amount of the people who are supporting the majority of the households in the country their purchasing activities of the various household consumables and capital goods significantly contribute to the Value Added Tax. In this regard any measure that the government takes to promote this sector will assist in achieving economic targets (Herald September, 2014).

In his studies Glenday (2007) highlighted that Tax Authorities have little information about the hidden activities of the informal economies. The reason behind this is that the informal economy comprises of traders who does not furnish or disclose their true business activities and the true records about their businesses. Despite the fact that a government might or might not recognize the existence of a trader the legal documents of operating the business activities is frequently unavailable. Even if traders are told that information on economic activities is a prerequisite for assessing taxes, the informal sector still renders a ruthless problem to the tax authorities. In some cases, it is almost impossible to determine the income of those in the informal sector because they are mainly self-employed and therefore the greater part of the real income cannot be satisfactorily assessed. As a result, majority of the informal sector have been the worst income tax evaders.

People in the informal sector are indifferent to proper record keeping. Record keeping, is a very important obligation in the correct determination of the income of the taxpayer so that a meaningful assessment of the tax liability could be made. Without proper record keeping, this cannot be done. A variety of academic disciplines suggest that there are two basic approaches to the problem of compliance. One analyses compliance in terms of economic decisions based on the likely incentives and costs of complying or not complying. It is based on the concept of economic rationality and is developed using economic analysis. The other approach is a behavioral approach which examines effects of other factors on compliance decisions especially as they relate to taxpayer behavior.

If people believe that requests from the tax authorities are reasonable and that the tax system is fair and legitimate then the contribution by the shadow economy tends to be higher. According to Glenday (2007) the following obligations are expected for one to be compliant to tax authority regulations. Firstly registration in the system followed by timely filing or lodgement of tax information (tax returns) thirdly reporting of complete and accurate information and last but not least payment of taxation or duties obligation on time. Therefore if one fails to meet any of the above obligations they may be considered to be non-compliant.

A presentation at International Tax Dialogue Global Conference on taxation of the informal sector in Argentina October 2007 noted that the following points discourage compliance, that is the value of time spent by business owners, managers and employees on understanding the tax rules and applying them. Record keeping costs, costs of compiling the necessary receipts and costs incurred in respect of the preparation of tax returns. The payments made for the expertise of professional advisors such as tax consultants, accounts and clearing agents. Incidental costs of postage, telephone, travel in order to communicate with tax authorities. Castells and Benton (1989) claim that the operation of the informal sector activities namely tax evasion causes financial losses in the state revenue and *ceteris paribus* generate budget deficits. This results in a further increase in tax rates as authorities try to finance the deficit.

2.2 General overview on sub-Saharan African countries

It is fundamentally important to look at the Sub Saharan African countries as a approach the impact of informal sector growth on tax performance. In most Sub Saharan African (SSA) countries revenue collection is affected by the existence of a large and growing informal sector, high tax evasion, and weak tax administration (ESRF, 1997: Tadesse and Taube, 1997). Raising tax revenue is a major concern for most developing economies this is for the reason that not only is their tax revenue collection level small, but also the tax compliance is said to be low (Tripp, 2002). Much of the economic activities in developing countries occur in an informal sector that is beyond the control of the government (Peñalosa, 2004).

The ILO (2002a) reported that three-quarters of non-agricultural employment constituted the informal sector in SSA. As recorded in the ILO (2002c), the informal sector adds up to 72 percent of employment in SSA and 78 percent if we exclude South Africa. Chen (2001) put

forward that during the 1990s, 93 percent of the new jobs generated in the continent were in the informal sector. This statistics revealed the impact of globalization, the reforms and economical strains on the labour market.

Xaba et al (2002) summarized what other African countries experienced in economic terms. The study highlighted that there has been a decrease in growth of employment in the formal sector. In comparison the informal sector's share of output and employment in Africa has been growing. Taking for instance, the employment in the formal sector is far exceeded by the informal employment in Kenya and Uganda. In addition looking at Southern Africa, 43 percent of urban employment in Zambia is in the informal economy, whereas in Mozambique the statistic indicated that 30-40 percent of city populace were reliant on the informal economy in 1990s. on another part of Africa Ghana's percentage of labour force employed in the informal sector is at 89 percent, Xaba et al. (ibid)(2002).

The informal sector in Africa is dominated by trade-related activities, with services and manufacturing accounting for only a small percentage of this sector (UN 1996). Angola, Nigeria, South Africa and Uganda, a majority of informal sector workers are active in retail trade (ILO 2002a). Street vending is one particular informal activity that is rampant on the continent. According to 1992 figures quoted in Charmes (1998a), street vendors represented 80.7 percent of all economic units surveyed in urban areas in Benin, with women making up over 75 percent of vendors.

2.3 Informal sector and taxation in Kenya

The estimation done by various studies show that the informal businesses is around 35-50% of GDP in most less developed economies. As with the case of Kenya, the informal sector is somewhat sturdy with 34.3%. According to Ouma et al (2009) more than 60% of the people in the informal sector are mainly youth. The Small & Medium Enterprises (SME) baseline survey carried in 1993 shown that 910,000 SMEs were estimated and employed about 2 million people. In the second SME baseline survey (1995), the size of the SME sector was estimated at 708,000 and also employed 1.2 million people. Comparing with some sectors of the economy, SME sector contribution to the country's Gross Domestic Product (GDP) showed an increase from 13.8% in 1993 to above 18% in 1999, (Sessional Paper No. 2 of 2005). According to the Economic Survey, (2012) the contribution to the GDP by the informal sector account for over 25%.

Available literature indicates that there exist strong relationship between the informal sector and the inability of the Government to collect the requisite taxes. From the informal sector point of view the compliance tax burden on the Informal Sector may be high relative to that of large companies (higher unit cost in relation to turnover). Furthermore, the cost of complying with a given set of tax rules/regulations is considered to be generally higher for the Informal Sector as a percentage of turnover or profit. In theory, a taxpayer's incentive to comply with a tax system depends on an assessment of the relative benefits and costs of complying versus noncompliance.

The highest proportion of the underground economy in Kenya was recorded in the 1990s when it averaged 20 per cent of GDP. The potential tax accumulated from the underground economy averaged 4 per cent of the GDP, thus the tax authority has the potential to expand the tax base by 4 per cent of GDP. For the year 2005, this would have raised tax collections by about Ksh 55 billion. The figure also reveals that the size of the underground economy has been increasing over the years, probably due to improved technology, more stringent regulations and burdensome taxation.

In a bid to mobilize revenue from the underground economy and reduce the tax gap, the Government of Kenya has made attempts to bring the underground economy into the tax net under a presumptive tax regime, named Turnover Tax (TOT) introduced in the Finance Bill of 2007. TOT is a presumptive tax where the tax base is the turnover; any business below Kshs.5 million is taxed at a flat rate of 3% of annual turnover. It is specially designed for small businesses that are unable to keep proper records of accounts, among other complexities associated with regular tax regime.

The main objective of the system was to draw informal sector into the tax net by simplifying tax procedures, encourage record keeping, and tax computation, thereby making it easy to file tax returns and reduce the cost of tax compliance. In the year 2008/09, TOT performed at 31% with a total of Kshs. 136 Million against a set target of Kshs. 442 Million. From the beginning of the year 2009/10, the performance of the TOT was above average but on a declining trend.

2.4 Informal sector and taxation in Tanzania

The 2006 Integrated Labour Force Survey (ILFS) indicated that in 2006, 40 percent of all households in Tanzania Mainland are in informal sector activities as compared to 35 percent in 2001. In 2006, the urban informal sector employed about 66 percent of the people for whom informal sector work is the main activity and only 16 percent of those for whom it is the secondary activity. In contrast, 34 percent of the people for whom informal sector work is a main activity are in rural areas and 84 percent for whom this work is a secondary activity. This suggests that informal sector is a source of employment for majority poor Tanzanians.

The low and falling tax-revenue/GDP ratio in Tanzania has raised serious concerns over the years. In an attempt to increase its revenue base import-taxes was reduced substantially, whilst large tax incentives were offered for new investments. At the same time sluggish private-sector growth has not generated enough revenue to compensate for lost revenue from the shrinking parastatal sector (World Bank, 2000). The tax-system failed to capture potential revenues from economic activities due to the size and fast growth of the informal sector, and in addition, tax collection was inefficient. One of the main fiscal challenges thus remains structural reform of tax policy and tax administration. However, during 2003/04 the government, besides abolishing a large number of local-government taxes, also introduced reforms aimed at increasing transparency and reducing the abuse of tax-exemptions. Some observers have argued that, in order to broaden the tax-base, the informal sector must be included in the tax-net.

The tax-structure in Tanzania has changed over the years. The total income-tax-revenue share in GDP was 3.6% in 1999/2000, falling to 3.0% in 2000/01 but rising again to 3.4% in 2002/03. Cross-country analyses of tax-revenue performance suggest that Tanzania is capable of generating substantially more tax-revenue (Ghura, 1998). Bevan (2001) estimated that Tanzania should have been able to generate an 18% tax-revenue share of GDP in 1999 far above the actual 11%. In comparison with Kenya, Malawi, Ghana and Zambia which all have similar tax structures in terms of types of tax and rates were all generating substantially more revenue than Tanzania.

In Tanzania the question of whether the informal sector is emerging at a rapid rate than the formal sector is very difficult to answer. Many observers would argue that it has, because of

retrenchment of public employees; privatization and restructuring of public enterprises; and slow growth of employment within the private formal sector. But the employment-share in the informal sector seems to have declined from 8.8% to 8.5% from 2000 to 2010. Nevertheless, because the economy has been growing overall, the informal sector may have grown in absolute terms. A recent survey highlighted some important characteristics of the informal sector, important to understand in assessing possibilities for increased taxation and their distributional impact.

According to the survey done in Tanzania, 43% of informal operators claimed to already pay tax of one form or another. In particular, 47% of trade/ hotel/restaurant sector operators claimed to be paying tax, and 46% of transport operators. In mining, however, no operators reported paying tax and only 18% in construction. Overall and by sector, more operators with higher income reported paying tax, and reported paying higher percent of value-added. Overall, 6% of value-added was reported paid to the Tanzania Revenue Authority (TRA), and 3% to local authorities, for an overall average of 4%, which is not insignificant.

2.5 Informal sector and taxation in South Africa.

Overall, 70 percent of South African micro-businesses are concentrated in the retail sector (Lighthelm, 2006). In South Africa the retail businesses are found mainly in rural and urban areas, throughout formal and informal settlements, and in all provinces. The same estimates of the informal sector's share of total South African employment are said to be in the range of 17-19 percent (National Labour & Economic Development Institute, 2004). However this range is less than the informal economy's share found in many SSA countries for instance 72 percent in Kenya and 58 percent in Zambia. South Africa's informal employment as a proportion of non-agricultural employment was at 72 percent, with 47 percent of informal enterprise workers in the trade sector according to Devey, Skinner and Valodia (2006). Statistics South Africa (the official government data agency) estimated that 2.7 million people are employed in businesses which are not registered for tax.

Although the informal sector encompasses a various scope of activities, concentration in South Africa is mainly in retail which includes hawkers, spaza shops, and shebeens. Accurate records of these businesses are not available from official sources, however without doubt

there are hundreds of thousands. Ligthelm (2006) estimated that South Africa's hawkers have 261,000 outlets and an estimated total employment of 415,000.

Even as the South African government attempts to steer economic growth and development towards the formal sector, informal economic activities persist in the retail sector. Martins and Ligthelm (2004) estimated that 37.7 percent of retail sales (not including transport equipment, household fuel, and power) were channelled through informal outlets. In 2003, this informal portion of retail trade was estimated to be 142.5 billion South African rand (approximately \$20 billion). One reason that informal businesses dominate trade and commerce in South Africa is the legacy of isolated and underserved areas like the informal townships outside major cities that is, the lack of formal retail in the townships and homelands under apartheid led to entrepreneurial opportunities in the informal sector. This goes back to the political era thus according to Ligthelm (2004).

A report done by FIAS (2007) in South Africa noted that from the point of view of professional tax practitioners, provisional tax is the most burdensome for small businesses. This is due to the fact that a provisional tax is an estimated tax that is set across the board and does not distinguish between those who are able to pay the amount and those for one reason or another may find it difficult to meet the obligation. Penalties and interest charge to the business cause significant disappointment to the tax payer. According to the report, a special simplified tax regime for both informal and formal small business is needed. The study also agreed that from a time and cost perspective, registering and preparing, completing and submitting VAT returns takes the longest and costs the most. It is all evident the study noted, that the cost of being compliant is far above the ground .

In a study done by USAID 2007 on South Africa informal small businesses showed that most small business operators relied extensively on word of mouth for the transmission and receipt of information, including information on tax matters and it would appear that much of what was currently in circulation in this sector may not be well grounded in fact or a proper understanding of tax matters. IFC (2007) viewed record keeping as an essential element of business meeting its tax obligation. In contrast to the formal sector the informal sector is under developed and has a minimal contribution to the GDP economy despite its potential

contribution it also contain a large percentage of the population meaning that it has massive socio economic implications for this reason it requires urgent attention (Mbeki 2003).

The existence of the informal sector results in a fiscal problem and there is emerging evidence that businesses operating in the informal are less efficient (De Paula and Scheinkman 2007) the explanations behind the lack of efficiency is a result of their size , no access to legal security provided by the government and inability to scale . These limitations structurally detach the informal sector and the GDP economy. This detachment renders the informal sector incapable of generating and sustaining its own growth and development (Mbeki 2003)

The average growth rate in tax revenue for South Africa was 12.7%. Growth rates varied from year to year, with the lowest recorded in 2003 (6.9%) and the highest in 2004 (16.7%). for South Africa was obtained. Stotsky & WoldeMariam (1997) studied 43 sub- Saharan African countries during 1990–1995. For 1995, a tax effort of 1.16 was estimated for South Africa. All these results indicate that the South African tax authorities are quite successful in extracting revenue from the potential tax base

2.6 informal sector and Taxation in Zambia

Zambia, like other most developing countries, has undertaken tax reforms in a bid to raise more revenue from its tax system. Though tax reforms in Zambia began in the early 1990s, tax revenue has grown only marginally from its sharp decline prior to the reforms assessed by the Tax-to-GDP ratio, revenue performance has ranged between 15% and 20% of GDP. According to the 2008 labour force survey (CSO 2011), of the 4.6 million employed persons in Zambia, 89% (4.1 million) were employed in the informal sector while the remaining 11% (0.5 million) were employed in the formal sector. Also to note is of the 4.1 million informal sector employees, 3.4 million operated at household level moreover of the total informal sector employees, 3.2 million were employed in the agricultural sector, whilst the second largest portion (400,000) were working in trade. This shows that Zambia's largest group of employed populace largely comprises unregistered and hard-to-tax groups such as small-scale traders, farmers, small manufacturers, craftsmen, individual professionals and many small-scale businesses (2008 labour force survey-Zambia).

Notwithstanding the informal sector importance as a major source of employment, the distribution of the informal sector's tax potential among over 4 million individuals is too thin to certification taxation with minimal costs to the economy. Since the informal sector produces about half of what the formal sector produces in monetary terms, it is however clear that the incomes generated in the informal sector are largely for basic provisions as such and taxation would serve to increase the levels of poverty (labour force survey 2008). This conclusion is supported by Shah (2012) who found out that of 75% of the MSMEs in the informal sector in Zambia earn revenues of less than ZMK 1 million per month.

In Zambia Informal sector taxation was introduced in 2004, beginning with the Presumptive Tax on taxis and minibuses and the Turnover Tax on small-scale enterprises. Later on, a Base Tax on marketeers (2005) and an Advance Income Tax (AIT) (2007) for cross-border traders were introduced. The Base Tax is charged at ZMK 500 per day for all marketeers. The AIT rate is 6% of the value of imports exceeding \$500 in value for all unregistered and partially compliant firm (A Joshi, W Prichard and C Heady 2012). However revenues collected from these taxes as a proportion of total income taxes have generally been poor.

Looking at Zambia the sluggish performance of informal sector taxes raises the question of whether there is capacity for more informal sector taxation in Zambia. From International Labour Organisation's point of view informality largely encompass marginal and subsistence economic activities that can be ignored for tax purposes altogether (ILO 1972). With this view in mind regarding taxation of informality it is viewed as a costly exercise, so the observed underperformance of informal sector taxes is not underperformance at all but a self-fulfilling expectation. Proponents of informal sector taxation, on the other hand, base their arguments on the tax literature which points out that in addition to revenue and equity purposes, taxing informality increases general tax compliance in the formal sector (Terkper 2003). Alm, Vazquez and Schneider (2004) pointed out that economies with high levels of informality are usually characterised by lower tax compliance rates in the formal sector.

The Zambian government's efforts at taxing informality, and even the public debates on the informal sector's tax potential, have been inadequately informed. The literature and evidence on the size, evolution, structure, causes and characteristics of the informal sector in Zambia weaken effective tax policy-making. It found out that, in theoretical terms, informal sector has significant tax potential. Nevertheless, looking at the estimates within the real context of

the Zambian economy we can conclude that Zambian economy does not need more taxes but to a certain extent, there is need to strengthen the existing taxes and mechanisms that cultivate the spirit of formalisation the informal sector. The mechanisms must be designed in such a way as to enable the Micro, Small and Medium Enterprises (MSMEs) who have the ability to pay taxes to graduate into the standard tax regime.

S Phiri and Kabaso (2012) estimated the currency demand function for the Zambian economy and extract from it the currency demanded in the informal sector by assuming that transactions conducted in the informal sector are made to avert tax obligations. This demand for currency in the informal sector was then converted into informal GDP using an appropriate velocity of income other variables that were incorporated were as follows, Currency holdings by the public, Real GDP, the average tax rate, interest rate and inflation. The trend was increasing from 1973 to 2000. The highest levels of informality concurred with the era of liberalisation, which was characterised by significant job cuts. A conventional decline in informality as a proportion of GDP was seen after 2007. As a proportion of formal GDP, informality averaged 47.7% per annum for the period 1973–2010.

S Phiri and Kabaso (2012) applied the Currency Demand Approach to Zambia for the period 1973–2010, and found that informal GDP averaged 47.7% of official GDP per annum and that the informal sector's tax potential averaged 42% of total tax revenues per annum. This large tax potential was found to be thinly spread among the 4 million plus participants in the informal sector, implying that devoting more resources to tax this potential would not be practical in terms of both equity and efficiency. Short-to-medium term measures should focus on strengthening existing taxes and mechanisms for fostering the formalisation of the informal sector. In the long term, the informal sector's tax potential cannot be ignored, so the tax system should be simplified and designed in such a way that it encourages informal MSMEs to graduate into the standard tax regime, while also increasing the costs of non-compliance.

2.7 Formalisation of the informal sector

In order to tap into some of the informal sector resources currently escaping the tax net, it will be worthwhile to try to reduce levels of non-compliance. It is also important to small businesses incentives for formalisation should be enhanced. In an effort to encourage easy graduation of MSMEs into the standard tax regime tax simplification and the minimisation of the differential tax treatment arising from differences in taxpayer size should be emphasised. The main challenge is to come up with incentives that encourage these small businesses to voluntarily opt into the standard tax system and begin to enjoy the benefits of formalisation.

Alternatively, since the decision to participate in the informal sector also involves weighing the cost and the benefits of being formal or informal, measures could be taken to raise the costs of being informal relative to those of being formal. As a benchmark, Shah (2012) considers the cost–benefit situation at play in countries with low levels of informality elsewhere in Africa and notices a sharp delineation in the access to public infrastructure services between formal and informal firms. She therefore advocates that policy-makers enforce stricter tax code on these urban informal operators so as to increase the costs of non-compliance which would in turn increase the likelihood of formalisation.

However, despite the fear that taxation may hinder growth, an increasing number of researches suggests that formalisation, may have significant benefits for growth therefore may not hinder growth. At the focal of the findings is the fact that informality carries a variety of costs to firms, however it rule out access to certain opportunities available to formal firms. The benefits of formality may include greater access to credit, increased opportunities to engage with large firms and the government, and reduced harassment by police and municipal officials, and access to broader training and support programmes. The fact that many firms continue to opt into informality, despite these apparent benefits, suggests that there remain important barriers to formality, that the potential benefits to bringing firms into the tax net is likely to be dependent on the particular features of how this goal is achieved, and that any costs and benefits are likely to vary across firms Schneider(2010).

Schneider et al. (2010) examined the shadow economy (which is a broader category than just the informal sector) and find that the shadow economy on average modestly minimized between 1999 and 2007, but is still quite large (38.4% of official GDP) in Africa. Much of the early evidence that formalisation may lead to more rapid growth comes from evidence that formal firms tend to grow faster than informal sector firms.

Efforts to tax informal sector operators may encourage collective action and collective political engagement by informal sector associations thereby providing a longer term foundation for expanded bargaining (Joshi and Ayee 2008, Prichard 2009). The potential connections recommend that the expanded taxation of the informal economy, if followed in a reasonably prescribed manner they could become an important basis for expanding political voice among relatively marginalised groups (Moore 2008). Nonetheless, evidence for these suggestions remains very preliminary. Joshi and Ayee (2008) expressed that government efforts in Ghana to tax informal sector firms resulted in at least some degree of bargaining between informal sector associations and the government Prichard (2009). De Mel et al. (2012) find that in Sri Lanka the formalisation of firms, including entrance into the tax net, fostered expanded trust in the state, though they do not explore any broader governance implications.

In a paper examining the impacts of formalisation based on panel data on micro firms in Mexico, Fajnzylber et al (2009a) find that formalisation in the form of access to credit, training, tax payments and participation in business associations has positive effects on firm profits, growth and survival. Formalisation appears to have the effect of bringing micro firms closer to their optimal size. In a controlled study in Sri Lanka, De Mel et al. (2012) discovered proof that formalisation had significant benefits for a small group of firms while for most firms incomes were relatively unaffected, though firm owners felt that they came to enjoy greater legitimacy. In a study of Indonesian microenterprises, McCulloch et al. (2010) find that microenterprises employing a greater number of workers (highest employment quartile) increase their profits the most from formalisation.

McKenzie and Sakho (2010) scrutinised micro firms in Bolivia using distance from the tax office as an instrumental proxy for informality, in an effort to establish the causal role of formalisation. From their results they established that formalisation by way of registration

with the tax authorities, increases firm lucrativeness but then only for mid-sized firms. Although all these studies highlight the existence of growth benefits from formalisation they also argue that for smallest micro businesses the benefits may be minimal. A survey of informal micro firms in Mexico conducted by McKenzie and Woodruff (2006) provides a possible enlightenment that the benefits of formalisation are not high enough for them to be an incentive to formalise. Given that micro business may be able to depend on informal credit mechanisms the value addition of formalisation may be comparatively limited.

Another reason why the benefits of formalisation may be smaller for micro businesses is that these businesses may have different interests than larger firms. Proponents of literature review argues that many micro businesses are operated by individuals who are not entrepreneurs, but who are doing something while waiting for an opportunity to enter salaried jobs, or who are running micro businesses in parallel with other employment in order to supplement income (Maloney 2004). In such circumstances, expanding the business may not be a central motivation, and formalisation is more likely to be irrelevant and potentially costly.

The administration of VAT needs to be improved. As the most broad-based tax in Zimbabwe, VAT captures some of the transactions in the informal sector when informal sector participants purchase goods and services from the formal sector. Over time, VAT exemptions should be rationalised and streamlined. To conclude in the long run, the tax potential of the informal sector cannot be ignored. It would be sensible to place informal sector within an appropriately designed framework that assigns administrative resources to collecting tax from this sector. When taxpayers are demarcated into small, medium and large, a clustering of taxpayers is usually observed just below the tax threshold as they try to minimise their tax burdens. To find out whether it is worthwhile to devote more resources to taxing the informal sector, there is need to gain insights into how this tax potential is distributed among the participants in Zimbabwe's informal sector.

The revenue implication of informal sector taxation is to ensure job creation and poverty reduction among lower-income groups, long-term economic development and the development of a larger tax base over time. The pressing worry for many tax experts is that increased taxation of small firms may ultimately hinder growth, and that this cost may far outweigh the revenue benefit. This reason is naturally convincing, and based on the concept that small firms opt into informality precisely because they believe that informality will benefit them, given the burdens of formality.

2.8 Conclusion

In this chapter various aspects of informal sector and taxation has been analysed basing on the studies carried out by different researchers. The literature view also highlighted how other selected countries observe the issues of informality and tax performance. The subsequent chapter will look at the research methodology to be used to analyse the impact of informal sector growth to tax performance.

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

The previous chapter looked at literature on the informal sector and the theoretical framework upon which this thesis is based. This chapter will look at the research methodology. According to Miller (2002) research methodology is composed of the procedures by which the researcher goes about their work of describing, explaining and predicting phenomena. In this case, the researcher employed quantitative techniques in answering the research problem. That is, econometric analysis was used to model the impact of the hidden economy on tax revenue. This was achieved through the use of the ordinary least squares (OLS) techniques of regression. Hence this chapter is going to look at the model specification, estimation procedures, and definitions of explanatory variables, diagnostic tests and data sources.

3.1 Model specification

3.1.0 General model

According to (Goode, 1984), the tax ratio is a good measure of the tax performance. Thus the researcher has adopted a model based on the behavioural approach recommended by Chelliah (1971) to measure tax performance. Using the equation recommended by Chelliah, the tax ratio can be estimated by taking the proxies for the tax handles of a country as explanatory variables. Hence the researcher has chosen the following model.

$$T/Y=f(X1,X2.....Xn, \mu)$$

Where T/Y is the tax ratio to GDP and X_i are independent variables that are proxies for the determinants of taxable capacity and efforts and μ is the error term.

3.1.1 Specific model

The main objective of this thesis is to estimate the impact of the informal economy on tax revenue. In order to answer that problem, there is need to estimate the tax performance of the country using the informality of the economy as one of the explanatory variables. The

specific model of the study will be as follows (the model is similar to the one developed by Bahl);

$$T/y = \alpha + \beta_1 XM + \beta_2 Ag + \beta_3 Am + \beta_4 At + \beta_5 Ms + \beta_6 f + \beta_7 T + \varepsilon_i$$

Where; $\alpha, \beta_1, \dots, \beta_4$ are constants, ε_i is the error term.

Where;

Ty = Tax to GDP ratio

XM = the trade to GDP ratio

Ag = the ratio of agriculture to GDP

At = the ratio of construction sector to GDP

Ms = the ratio of mining sector to GDP

Am = the ratio of manufacturing sector to GDP

f = shadow variable proxying the size of the informal sector.

T = time trend

As mentioned earlier, the researcher chose this model specification in line with Chelliah (1971)'s determinants of tax ratio. If Ty represents the predicted tax ratio, this means that there is an average relationship between the predicted tax ratio and the exogenous variables. The coefficients are thus treated as "average" effective tax rates on those bases. Consequently, an exogenous variable multiplied by its coefficient will give the average contribution of the base to tax. This is how the predicted tax ratio becomes in itself a measure of tax capacity. But in order to get a reliable measure of the tax effort (tax effort index), we divide the actual tax ratio by the predicted tax ratio (Chelliah, Baas, and Kelly, 1975).

3.2 Justification of the econometric model

The study will adopt an Ordinary Least Squares (OLS) Econometric Model to help answer the research questions and hypothesis of the study. Appropriate data tests will be applied to avoid obtaining biased results. The tests include multicollinearity test, correlation test and

stationarity test. Whenever the need arises as per tests results, data will be transformed to meet econometric standard.

The researcher has adopted the OLS method in estimating the tax ratio. Initially a panel approach had been chosen on the rationale that for us to determine the tax effort of Zimbabwe we should be able to compare results with other countries. But the researcher decided to abandon the approach on the basis that the main objective of the thesis is not to predict tax performance, but to characterise the relationship between tax yield and the increase in informal activities. Thus dealing with panel data composed of Zimbabwean data and data from other countries is an unnecessary bother. Eventually the OLS method is chosen because of the nature of the data. OLS model is simple to construct and interpret. Thus the estimation model is as follows

$$y_t = \alpha + \beta X_t + \mu_t$$

Where y_t is a the tax to GDP ratio of the Zimbabwe government during period t , α is the constant, β is the vector of coefficients on the vector of parameters which influence the tax to GDP ratio, X_t is the set of observed explanatory variables, μ_t is the error term.

The use of the time series data was advantageous in that many observations could be incorporated, hence making the sample more representative. Another advantage is that historical data could be input into the model to predict y_t at a certain given time t .

3.3 Discussion of the Explanatory Variables

International Trade to GDP ratio

International trade will be analysed as imports and exports. This is the relative size of the external sector and shows the level of participation of the economy in international trade. In the presence of inward capital flows, the overall level of activity in the economy is artificially and or temporarily increased through foreign borrowing and so is the aggregate tax base. According to Seade (1990) this makes tax revenues artificially buoyant and volatile. In a

country with a reasonably effective border security infrastructure, the international sector is a reliable tax revenue source. This is because of the administrative easiness and cheapness with which tax revenue can be collected in this economic sector. As such, a positive relationship is expected between the tax ratio and the trade to GDP ratio.

Agriculture to GDP ratio

The Zimbabwean agricultural sector is dualistic in nature and the greater percentage is composed of subsistence communal farmers and smallholder commercial sector. There is only a small percentage taken by large commercial sector. This is on account of the land reform programme since 2000. According to Samuel Fambon (2004) the presence of a huge agricultural sector composed of smallholder farmers creates problems for tax authorities. It reduces the possibility of relying on certain modern taxes, such as personal income taxes at the individual level, or value-added taxes at the wholesale, retail, and consumer levels and it also makes it much more difficult to reach those with the economic ability to pay taxes. Also the fact that the greater share of agriculture is normally subsistence means that it does not generate large taxable surpluses, as many countries are unwilling to tax the main foods that are used for subsistence (Stotsky & WoldeMariam, 1997). As a result, a huge agricultural sector would result in a lower tax yield, thus the coefficient of agriculture to GDP ratio is expected to be negative.

Construction sector to GDP ratio

The building and construction industry is a key driver of the Zimbabwean economy and makes a major contribution to the generation of wealth and the welfare of the community, particularly through the provision of shelter. It is one of the pillars of the Zimbabwe's economic and social infrastructure. Hence a positive relationship is expected between the tax ratio and construction to GDP ratio.

Manufacturing to GDP ratio

The introduction of fiscal machines has resulted in a more reliable tax yield from the manufacturing sector in Zimbabwe. Although the manufacturing sector itself has been struggling for the past 12 years (Institute of Chartered Accountants of Zimbabwe, 2013), the costs of collecting tax from the sector are relatively lower as compared to sectors like the agricultural sector. Thus an increase in manufacturing activities will result in an increase in

the tax revenue, implying that a positive coefficient for manufacturing to GDP ratio is expected.

Mining to GDP ratio

Traditionally, mining in Zimbabwe has been a major contributor to economic growth and government revenue. The performance in the mining sector has been further improved by the formalisation of mining of diamonds in Marange. Thus the contribution of the mining sector to the total national exports was about 65% in 2010 while in 2011 it cemented its position as one of the major Gross Domestic Product drivers along agriculture. In his 2011 National Budget Statement, the Minister of Finance noted that the mining sector has been the fastest growing sector since 2009 with growth up from 33% to an estimated 47% in 2010. On account of the above mentioned, the formalisation process has made the collection of tax from this sector cheaper and easier. Hence the growth of the mining sector is proposed to have a positive effect on tax revenue.

The informal sector

The growth of the informal economy has an impact on tax revenue. Although the informal economy may contribute significantly to national output, informal activities are characterized by small profits, they are usually geographically dispersed, and they may not keep accurate accounts or file returns. This results in very high costs of collecting the taxes (Fambo, 2004) and a lot of income going untaxed. Nevertheless the growth of informal sector does not necessarily imply the reduction of the formal sector. We cannot dispute the fact that not all traders in the informal sector amongst the informal sector some trader's pays taxes in the form of presumptive tax, custom duties, VAT and other various taxes. On this account, the coefficient of the informal sector is expected to be positive.

There are many approaches to estimating the level of informality in the economy. These include direct methods like surveys and tax audits and indirect methods like labour market analysis and currency demand analysis. The researcher used the currency demand analysis because of its simplicity and time efficiency when dealing with time series data. The currency demand analysis approach is based on the assumption that informal transactions take place on cash basis (Cagan, 1958). Hence relative changes in currency holdings are interpreted as reflecting Volume movements in the informal economy activity. To determine the shadow

variable, the following equation will be run using Ordinary Least Squares (OLS) methodology;

$$LM = \beta_0 + \beta_1 LGDP + \text{Trend} + Z_t$$

Where LM, and LGDP are the logs of money supply and GDP respectively. Z_t is the error term, indicating the unexplained part of the regression with respect to money supply holdings. It implies that people are holding more money than they would be expected to do given the characteristics of the economy. This is taken to be as an indicator of the hidden economy, which we have termed the Shadow. If it is positive, it implies a large informal sector and vice versa.

Time trend

The researcher had good reasons to believe that the time series data is not stationary. Therefore the trend variable was put into the model in order to capture any exogenous underlying trend in taxation. A non-stationary data set is a set of data in which the mean and other characteristic like variance and covariance of the subsets are not the same. This shows that the data is shifting by a certain exogenous trend.

One way of solving this problem is to include a dummy for each shift of the intercept. However, this would mean that we would totally run out of degrees of freedom and hence be unable to estimate the equation at all. To solve this sub-problem, we assume the shift is the same in each year (Henri, 1971). This implies a restriction that each year dummy would have exactly the same coefficient. When dealing with a linear model, this just means that we add an 'artificial' variable to the equation. This variable could be called 'T' and it would be expected to have a positive coefficient if there is an upward trend and a negative coefficient if there is a downward trend.

3.4 Diagnostic Tests

The following test will be conducted and analysed.

3.4.0 Testing for stationarity

A stochastic process would be defined as stationary if its characteristics like mean, variance and covariance are constant over time. Non-stationarity is of the most common problems in econometrics. If an OLS model is run on non-stationary data, the result could be a spurious regression in the model obtains t and F -statistic which are significant whereas there would be no relationship at all. Also, a model based on time series data can be used for forecasting, but they will not be possible in the absence of stationarity. Thus to avoid such problems, the researcher will test the data for stationarity using the Dickey–Fuller (DF) test. The Dickey–Fuller (DF) test is going to be used in all its three forms. This is because we do not know whether we are dealing with a random walk which has no drift or whether we are dealing with data with both the “deterministic and stochastic trend” (Gujarati, 2004). The three forms are specified as follows

$$\Delta Y_t = \delta Y_{t-1} + \mu_t \quad (3) \text{ if } Y_t \text{ is a random walk}$$

$$\Delta Y_t = \beta_0 + \delta Y_{t-1} + \mu_t \quad (4) \text{ if } Y_t \text{ is a random walk with drift}$$

$$\text{And } \Delta Y_t = \beta_0 + \beta_2 t + \delta Y_{t-1} + \mu_t \quad (4) \text{ if } Y_t \text{ is a random walk with drift}$$

around a stochastic trend

Where t is the trend variable. For each equation, $H_0: \delta = 0$; that is implying that the time series is non-stationary. $H_1: \delta < 0$ implying that the time series is stationary. Suppose we reject H_0 , it shows that the stochastic process is a stationary time series with zero mean for equation (3), that the stochastic process is stationary with a nonzero mean for equation (4) and that the stochastic process is stationary around a deterministic trend.

3.4.1 Tests for Model Specification and Significance of the Model

The F-statistic will be used to test the significance of the whole model. If the F-statistic is less than 10%, the null hypothesis that tax ratio is not determined by the independent variable would be rejected and therefore we conclude that the model is significant at 1%, 5% and 10% significant level.

According to Ramsey (1969), model misspecification leads to inconsistency, which an asymptotic bias. Thus it is also necessary to test the model for the correct specification. One way of doing this is to use the Ramsey Regression Error Specification Test (RESET test). If $F_{calculated} < F_{critical}$ at 5% significance level, we accept H_0 and conclude that the model is misspecified.

3.4.2 Multicollinearity Test

Another problem in econometrics is that of two or more exogenous variables being related to each other. This known as Multicollinearity and its effect is that we will not be able to isolate the effect of each exogenous variable on the endogenous variable Lehmann and Romano (2005). Also, standard errors are inflated and there may be unexpected signs of the estimated parameters. Thus it is also paramount to test for Multicollinearity. A correlation matrix will be used to check if the exogenous variables are correlated. If the correlation coefficient is greater or equal to 0.8, it means there is high multicollinearity (Enders, 1995). Multicollinearity is corrected by dropping the least important amongst the two correlated variables.

3.4.3 Test for Heteroscedasticity

The classical linear regression model (CLRM) assumptions require that the error terms be homoscedastic. OLS estimators will be unbiased and consistent when there is heteroscedasticity however the estimators will be inefficient. As a consequence, t tests and F-tests based on the OLS formulas will lead to spurious regression. With 28 observations available from from 1985 to 2013 it is easier to exploit the Breusch-Pagan Godfrey test to test for heteroscedasticity. Number of observations (n) multiplied by R squared (nR^2) is computed and compared to a chi square distribution with m degrees of freedom (where m is the number of explanatory variables). Murray, (2006) highlighted that if nR^2 is greater than chi square critical value with m degrees of freedom, the null hypothesis of homoscedasticity

is rejected. If evidence of heteroscedasticity is found, OLS will be abandoned and the Weighted Least Squares (WLS) method will be used to estimate the regression.

3.4.4 Test for Correlation

The Durbin Watson (DW) statistic will be used to detect presence of first order correlation and the Breusch-Pagan Godfrey LM test will test higher order serial autocorrelation. The hypothesis of no serial correlation will be rejected if the nR^2 is greater than Chi-square (2) or if the p values are less than 10%.

3.5 Data and data sources

Data used in this study was obtained from the International Monetary Fund, Statistical Abstracts from ZIMSTAT, RBZ publications, Economic Surveys and ZIMRA Statistical Bulletins. These sources are going to be used because they provide data which is reliable and sequential. The sample period of the study was for the fiscal years 1985-2013. All the taxes in Zimbabwe will be considered in this analysis include; VAT, income tax, presumptive tax, custom duty among other forms of taxation.

3.6 Conclusion

This chapter was concerned with the explanation of methods that the researcher used in order to satisfy the research objectives. The researcher used the OLS method for regression. The choice of variables was based on economic theory and the work of scholars like Chelliah and Bahl as well as Teera. Various diagnostic tests are used in this thesis in order to make sure that the model gives a true impression of the relationship between the endogenous variable and the exogenous variables. These include the Dickey-Fuller test for stationarity, the F-test for significance of the whole model, the RESET test for model misspecification and a test for multicollinearity. The chapter also specifies that the data from 1985-2013 was obtained from the IMF, RBZ, ZIMSTAT and ZIMRA.

CHAPTER 4: PRESENTATION OF RESULTS

4.0 Introduction

This chapter presents and discusses the results of the model estimation carried by the Researcher using time series data from 1985 to 2013, a period for which data is readily available. Before the estimation of the model descriptive statistics were presented and pre-estimation diagnostic tests were performed to check if the classical linear regression model assumptions such as absence of multicollinearity and heteroscedasticity were satisfied. For the period prior to 2009 the figures were in Zimbabwean dollars and for the period after 2009 the figures were in United States Dollars hence the Researcher expressed the figures as percentages of GDP in order for the data to have the same unit of measurement. In addition the data was transformed to logarithms for data to be uniform and *eviews7* was used for regression.

4.1 Descriptive statistics

Table 4.1 measures of central tendency and spread

	D(LTY)	LAGRIC	D(LCONSTR)	LEXPO	LF	D(LIMPO)	D(LMANUF)	D(LMINI)
Mean	-0.005	1.19	0.006	1.55	0.41	0.003	-0.0053	0.02
Median	0.01	1.19	0.006	1.56	0.49	-0.009	-0.02	0.01
Maximum	0.10	1.39	0.25	1.71	0.58	0.37	0.20	0.47
Minimum	-0.38	0.83	-0.19	1.31	-0.08	-0.25	-0.11	-0.40
Std. Dev.	0.08	0.11	0.08	0.10	0.19	0.12	0.05	0.16
Skewness	-3.25	-0.86	0.42	-0.57	-1.64	0.98	1.52	0.43
Kurtosis	15.76	5.14	4.80	2.47	4.04	5.56	6.57	4.83
Jarque-Bera	239	8.82	4.64	1.84	13.9	12.1	25.7	4.80
Probability	0.00	0.01	0.09	0.39	0.00	0.002	0.00	0.09
Sum	-0.14	33.3	0.18	43.4	11.7	0.10	-0.15	0.51
SumSq. Dev.	0.19	0.33	0.19	0.27	0.98	0.37	0.09	0.72

From Table 4.1, the measures of central tendency and spread show that there are no problematic outliers since all the variables' maximum and minimum values are close to the mean as well as the median. The residuals are approximately normally distributed as shown by the value of the coefficient of skewness which is around zero for most of the variables and that four (4) of the variables (being half of the total number of variables) are negatively skewed while four are also positively skewed. Except for dependant variable all the variable have a kurtosis that is near that of a normal distribution which has a kurtosis of 3. Hence, we can assume that the data follows the normal distribution.

4.2 Diagnostic tests results

In order to estimate the model the following tests were done

4.2.0 Stationarity test

In order to determine and see whether the statistical properties such as the mean, variance and autocorrelation of the variable are constant over time, unit root tests were performed on each of the variable and the results are summarised in table 4.2 below. The variables which were not stationary at level were differenced once.

Table 4.2: Test for unit roots

		ADF Test			Phillips Peron Test			
Variable		Test	t-statistic	Conclusion	Test	t-statistic	Conclusion	Overall Conclusion
LAGRIC	τ_t	-3.68	-2.89	Stationary	-3.69	-3.04	Stationary	Stationary
	τ_μ	-2.97			-2.97			
	τ	-2.62*			-2.62*			
LTY	τ_t	-3.68	-1.50	Not Stationary	-3.68	-1.61	Not Stationary	Not Stationary
	τ_μ	-2.97			-2.97			
	τ	-2.63			-2.62			
LMANUF	τ_t	-3.69	-1.55	Not Stationary	-3.68	-1.54	Not Stationary	Not Stationary
	τ_μ	-2.97			-2.97			
	τ	-2.63			-2.62			
LIMPO	τ_t	-3.69	-2.00	Not Stationary	-3.68	-2.15	Not Stationary	Not Stationary
	τ_μ	-2.97			-2.97			
	τ	-2.63			-2.62			
LEXPO	τ_t	-4.32	-3.53	Stationary	-4.32	-3.55	Stationary	Stationary
	τ_μ	-3.58			-3.58			
	τ	-3.23*			-3.23*			
LCONSTR	τ_t	-3.68	-0.93	Not Stationary	-3.68	-1.26	Not Stationary	Not Stationary
	τ_μ	-2.97			-2.97			
	τ	-2.63			-2.63			
LMINI	τ_t	-3.69	-1.19	Not Stationary	-3.69	-1.19	Not Stationary	Not Stationary
	τ_μ	-2.97			-2.97			
	τ	-2.63			-2.63			
LF	τ_t	-4.39*	-6.60	Stationary	-3.69*	-5.54	Stationary	Stationary
	τ_μ	-3.61*			-2.97*			
	τ	-3.24*			-2.63*			

Key : Limpo means logarithm of imports

I(0) means the variable is integrated of order zero implying that it is stationary in level form while I(1), means the variable is integrated of order one implying it becomes stationary after differencing once

For Lagric, Lexpo and Lf, we rejected the hypothesis that each of the variables has a unit root and concluded that they were stationary at level at the 10% level of significance. Lexpo and Lf were stationary at level with linear trends. Lty, Lconstr, Limpo, Lmanuf and Lmini were found to have unit roots at level and were thus each differenced once to make them stationary. We then proceeded to estimate the least squares model as there was no need for an Error Correction Model (ECM) and cointegration test given that the variables are integrated of different order.

4.2.1 Test for heteroscedascity

Table 4.3 Heteroscedasticity test results

Heteroskedasticity Test: Breusch-Pagan-Godfrey

test	Test statistic	Obs*R-squared	Critical value at 10%	Pvalue
Breusch-Pagan-Godfrey	Chi-Square (7)	5.20	13.36	0.64

The Breusch-Pagan-Godfrey test was performed to check for Heteroscedasticity under the null hypothesis of no heteroscedasticity (homoscedasticity) with the rejection criteria being informed by comparison of the nR^2 value (number of observation times R^2) against a Chi-square distribution with 7 degree of freedom. The test failed to reject the hypothesis that there is no heteroscedasticity hence we concluded that there is no problem of heteroscedasticity.

4.2.2 Multicollinearity test

Table 4.4 Correlation Matrix

	LAGRIC	D(LCONSTR)	LEXPO	LF	D(LIMPO)	D(LMANUF)	D(LMINI)
LAGRIC	1.000000						
D(LCONSTR)	-0.296830	1.000000					
LEXPO	-0.049771	0.047838	1.000000				
LF	0.297433	-0.568791	0.284000	1.000000			
D(LIMPO)	-0.191982	0.340733	0.246272	-0.058578	1.000000		
D(LMANUF)	-0.134624	0.165338	0.045140	0.102669	-0.020711	1.000000	
D(LMINI)	0.135791	0.495004	-0.074786	-0.291922	0.079972	0.329974	1.000000

To check whether there are no variable that are linearly related to one another, the correlation matrix shown in table 4.3 was used whereby, as a rule of thumb, correlation coefficients that are greater than 0,8 indicated possibility of linear relationships. As shown in the correlation table, the results indicated that there is no problem of multicollinearity and hence we proceed with all the independent variables.

4.2.3 Test for Serial Correlation

A test for serial correlation using the Breusch-Godfrey Serial LM Test was conducted and the results indicate absence of first order serial correlation. The Breusch-Godfrey Serial Correlation LM Test indicates p-values for the t-statistic and F-statistic which are greater than 10%. Likewise Durbin Watson statistic of 1.85 indicates that there is no first order serial correlation.

Table 4.5 Test for higher order serial correlation

Breusch-Godfrey Serial Correlation LM Test:

test	Test statistic	Obs*R-squared	Critical value at 10%	pvalue
Breusch-Godfrey serial correlation LM test	Chi-Square (2)	0.089	4.6	0.95

4.2.4 Model Specification

Table 4.6 Test for omitted squares of fitted values

a) Ramsey test for omitted squares of fitted values

	Value	df	Probability
t-statistic	5.452394	19	0.0000
F-statistic	29.72860	(1, 19)	0.0000
Likelihood ratio	26.37116	1	0.0000

The Ramsey test (RESET) was done to check if they are omitted variables and in this case the model is correctly specified and hence we are not rejecting that they are no omitted squares of fitted values.

b) Wald Test

Table 4.7 Wald Test for coefficient restrictions

Test Statistic	Value	Df	Probability
F-statistic	4.567043	(8, 20)	0.0028
Chi-square	36.53635	8	0.0000

Testing significance of individual coefficients was done using the Wald Test the H:0 articulates that all coefficients are equal to zero with the p-value indicated we reject the null hypothesis and conclude that all variables are relevant to the model and therefore no variable is going to be dropped.

4.3 The Ordinary Least Squares Model

The Least Squares regression of Lty against the independent stationary variables yielded the following results in table 4.4.

Table 4.8 Regression output

Dependent variable: D (LT)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.431316	0.232010	1.859035	0.0778
LAGRIC	0.174997	0.119934	-1.459112	0.1601
D(LCONSTR)	0.383031	0.202723	1.889431	0.0734
LEXPO	-0.183720	0.122874	-1.495193	0.1505
LF	0.133917	0.083524	1.603335	0.1245

D(LIMPO)	0.045494	0.108071	0.420958	0.6783
D(LMANUF)	0.671035	0.220796	-3.039165	0.0065
D(LMINI)	0.274899	0.091421	-3.006952	0.0070

R-squared=64%

Adjusted =52%

F-statistic=5.18

Prob(F-statistic)=0.0017

Durbin Watson Statistic=1.84

Basing on the information presented in table 4.4 the model becomes

$$Ty = 0.431316 + 0.174997agric + 0.383031constr - 0.183720expo + 0.045494f + 0.045494impo + 0.671035manuf + 0.274899mini + u$$

The value of the Adjusted R-square which is 0.52 indicates that 52 % of changes in total revenue are explained by variations in the selected independent. And the remaining change in total revenue is due to other variables not included in the model such as share of tourism, transport and communication, finance and insurance among others. These are represented by the error term U .

From table 4.4 after regressing the logarithm of tax to GDP ratio (Lty) on the seven explanatory variables in their difference form the results showed that the logarithms of agriculture, exports, informal sector and imports are not significant as shown by their p values which are all greater than the 10% level of significance. Logarithms of informal sector (lf), manufacturing (Lmanuf), mining (lmini) and construction (lconsr) were found to be significant as shown by their p-values which are all less than 10%.

A p-value of 0.1601 was found on agriculture (lagric) implicating that share of agriculture has no significant weight on tax performance the possible reason being that greater share of

agriculture is normally subsistence therefore it does not generate large taxable surpluses as supported by (Stotsky & WoldeMariam, 1997). Furthermore most agricultural produce are exempt from tax.

Moreover a p-value of 0.1245 was reported indicating that the informal sector is not a significant determinant of the tax performance of the country.

Exports and imports were also insignificant in influencing the tax share. The p-value for exports is 0.15 and for imports its 0.678 meaning that the hypothesis that their individual coefficients are zero were not rejected at all levels of significance. The insignificance of exports can be explained as the country is exporting less and hence the export tax is insignificant to tax revenue.

4.4 Interpretation of Results

Results of the regression estimation reveal that amongst the explanatory variables, share of manufacturing, share of mining and share of construction have positive significant effects on tax collection. As it was expected the manufacturing sector p-value of 0.0065 indicates that the manufacturing sector is significant in explaining the variation in tax collections hence it significantly contributes to tax. The coefficient of 0.671035 explain that a 1% change in manufacturing bring about a 0.67% change in tax collections. Conventionally, higher share of manufacturing sector indicates a higher level of economic performance as in the case of Zimbabwe.

The mining sector has a positive impact on tax from the results the coefficient of 0.274899 indicates that a 1% change in mining cause a 0.27% change in tax collection. The p-value of 0.0070 means that mining is a significant contributor to tax revenue. Stosky and WoldeMariam (1997) using a sample of 46 sub-Saharan countries concludes that the share of mining to GDP is a significant determinant of tax revenue share. In Zimbabwe the mining sector has hastily grown with more diamond and gold claims being discovered and government centralising all the activities involved in diamond mining.

The construction sector is also significant in explaining the variation in tax as specified by the p-value of 0.0734 which is significant at 5 and 10% levels. Having a coefficient of 0.383031 basically means that a 1% variation in construction will result in a 0.38% variation in tax collections. In Zimbabwe the construction sector is on the increase as compared to past years.

The share of agriculture shows a significant negative relationship with tax collections. As predicted, share of agriculture shows a strong negative relationship with tax collections in accordance with the p-value of 0.1601. In Zimbabwe the explanation is that a large share of agriculture entail a generously proportioned subsistence sector. This will imply that there is lower level of development and the larger proportion of the populace are either exempted from tax or are taxed at a rate which is lower. The degree of the coefficient that is 0.174997 also strengthens the virtual significance of this explanatory variable. Shin (1969) argues that share of agricultural income signifies the degree of industrialization and urbanization thus a high agricultural share implies a relatively smaller taxable private surplus.

Greater share of international trade implies a larger openness of an economy which is complimentary to revenue collections. Imports as percentage of GDP illustrate positive significant relationship to tax collections as it is expected. Moreover, international trade is a sector which is convincingly uncomplicated to tax authorities to examine. The negative coefficient of export looks contrary to the intuition. However, the regression results imply that level of exports does not have statistically significant impact on tax share. Bahl (1971) directly related tax compilation to the size of foreign trade sector because he argued that a higher level of export relative to income reflects a greater degree of monetization and that with larger imports taxation will be efficient with minimum difficulty in administration.

Though it has been established that the informal sector is not significant in explaining variation in tax as indicated by the p-value of 0.1245, the informal sector's coefficient of 0.13 shows that, a 1% change in informal sector will cause a 0.13 % change in tax collections. Davoodi and Gregorian (2007) also found similar results. The size of shadow economy is relatively larger in developing countries where it is believed to cause severe detrimental effect on revenue efforts. In Zimbabwe the result is mainly because the administrative cost of

engaging the administration of tax from the informal costs is too high hence the consequence is that a large number of potential taxpayers stay outside the reach of the tax administrations. In addition a lot of informal traders evade tax because they find it not motivating to remit tax to the fiscus. They see no advantages of remitting tax and view it rather as a burden.

4.5 Conclusion.

This chapter presented and analyzed research findings. Answers to research questions were presented, analysed and interpreted. The results indicated that the variable under study that is the informal sector is insignificant in determining tax revenue. Chapter 5 draws conclusions and make recommendations based on the research results.

CHAPTER 5: FINDINGS, POLICY RECOMMENDATIONS AND SUMMARY OF THE STUDY

5.0 Introduction

The earlier chapter looked at presentation of results where results were analysed and interpreted. This chapter summarises the major research findings based on the analysis of results in chapter four. The chapter will also draw conclusions as to why the informal sector is generally insignificant to tax performance given its expansion. Policy recommendations which can be put in place will also be highlighted in this chapter.

5.1 Findings

The objective of the research was to investigate the impact of the growth of informal sector to the tax performance in Zimbabwe with the objective of finding ways to increase compliance resulting in a broader revenue base for the country. Research findings from the regressed estimation indicate that despite the growth of the informal sector its contribution to the tax revenue is insignificant. Explanation of this being that most businesses in the informal sector are not registered with ZIMRA. The major justification for not registering being that there is a common feeling that there is no advantage for businesses to register with the tax authorities.

High tax rates, high compliance costs, complex tax system and lack of adequate knowledge about the tax regulations are the chief reasons why the informal sector was generally not compliant with the tax laws. According to the general perceptions being compliant makes the business less competitive as a result less profit is earned. This is however not in line with the profit making objective which is the reason why many organisations are into business.

The hypothesis that the growth of informal sector is insignificant in determining tax performance in Zimbabwe is not rejected.

5.2 Policy Recommendations

From the research findings, the following recommendations have been made to create and improve a culture of taxpaying by the informal traders. In order to spigot into some of the informal sector income currently escaping the tax net, it is worthwhile to decrease levels of non-compliance and also, enhance the incentives of small businesses to formalise. Formalisation of the informal sector is very essential. It is important to come up with incentives that will encourage small businesses to voluntarily opt into the standard tax system so that they will start to see and enjoy the benefit of formalisation.

It is worthwhile to simplify the tax system and minimise the differential tax treatment brought about by differences in taxpayer size. The long bureaucratic process of taxation should be revisited and simplified. Simplified tax system will help reduce costs involved like fees paid for professional advice on tax issues and this will lessen the burden of taxpayers. Assessment and collection procedures need to be re-evaluated so as to increase compliance. This will encourage easy graduation of small enterprises into the standard tax regime thereby widening the tax base.

The study proposes a reduction in tax rates. Generally there is indication that taxes that are being charged are too inflated. From the research findings a significant reduction in taxes will go a long way in encouraging tax payers to pay tax resultant in an increase in the country's revenue base.

In addition it is advisable to ensure sustained public education thus changing attitudes and perceptions of the taxpayer are vital. Most informal traders views taxes as a cost and are not even aware of the benefits of being a registered tax payer. For instance on importation a registered tax payer will not pay presumptive tax also on tenders it is important to be a registered taxpayer since it is a prerequisite on all tenders. As indicated by other studies, improving flow and quality of information as well as educating the informal sector to be more responsible citizens may yield greater revenue than spending time on enforcement activities. Identifying, registering, training, and guiding SMEs on business management basics, such as bookkeeping, marketing and obtaining loan facilities is of paramount importance.

To achieve higher revenue the government must enforce tight regulations on small enterprises. The government should enforce rules and regulations governing taxation. Defaulters must face stiffer penalties. Businesses in the informal sector who fail to comply legal action must be taken, special tax courts must be established to deal with defaulters.

Providing Small to medium enterprises with permanent trading location and adequate infrastructure will encourage informal traders to comply with the regulation as prescribed in the law. Furthermore the government should encourage tax amnesties to traders. Imperative to note recently the ZIMRA adopted the tax amnesty strategy in order to encourage tax payers to remit taxes.

Offering of incentives to taxpayers is also recommended. Providing national awards as well as other pecuniary rewards to tax payers who comply with the tax laws is of a greater importance since it motivates tax payers to contribute to the fiscus. ZIMRA has a tendency of punishing tax defaulters in the informal sector and rather not rewarding taxpayers who have fulfilled their obligations.

The administration of VAT needs to be improved. As the most broad-based tax in Zimbabwe, VAT captures some of the transactions in the informal sector when informal sector participants purchase goods and services from the formal sector. Over time, VAT exemptions should be rationalised and updated.

5.3 Suggestions for Further Research

To find out whether it is worthwhile to devote more resources to taxing the informal sector, there is need to gain insights into how this tax potential is distributed among the participants in Zimbabwe's informal sector.

Further studies on the impact of informal sector growth on tax performance should look at other variables that are not included in this study and also should focus on comparing with other developing economies

5.4 Summary of the study

The study highlighted the significance of the selected variables based on data from 1985 to 2013 for Zimbabwe being analysed using time series. The study concluded that informal sector growth though it has a positive coefficient its contribution to tax performance is insignificant. Nonetheless there are also other variables which influence tax performance as supported by literature this include the mining sector, the manufacturing sector and the construction sector. In order for the informal sector to contribute significantly to tax revenue the key policy recommendation is to formalise the informal sector. With formalisation in mind it means the revenue base will be enlarged and therefore the tax to GDP will also positively increase.

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APPENDICES

Table A1: data table in logarithms

Lty	Lagric	Lmanuf	Lmini	Lconstr	Lexpo	Limpo	Lgdp	Lms	Lf
1.348305	1.31597	1.257679	0.568202	0.361728	1.691965	1.649335	1.96426	1.041102	0.477897
1.371068	1.220108	1.290035	0.633468	0.431364	1.663701	1.633468	1.961421	1.063779	0.480754
1.401401	1.117271	1.31597	0.477121	0.50515	1.672098	1.62634	1.962843	1.173498	0.496423
1.383815	1.170262	1.290035	0.681241	0.518514	1.71265	1.61066	1.959518	1.026533	0.475097
1.372912	1.127105	1.361728	0.531479	0.431364	1.634477	1.710117	1.956649	1.079784	0.482364
1.385606	1.170262	1.311754	0.591065	0.462398	1.619093	1.713491	1.957128	1.067114	0.480617
1.378398	1.130334	1.382017	0.60206	0.431364	1.565848	1.757396	1.950851	0.972165	0.465831
1.39794	0.832509	1.429752	0.653213	0.491362	1.544068	1.781755	1.961421	0.949248	0.463993
1.361728	1.136721	1.322219	0.579784	0.431364	1.594393	1.729974	1.962843	1.10871	0.487358
1.32838	1.232996	1.281033	0.653213	0.380211	1.64836	1.702431	1.956649	1.087295	0.483437
1.361728	1.127105	1.283301	0.255273	0.30103	1.592177	1.745855	1.94939	1.211302	0.499782
1.346353	1.307496	1.214844	0.176091	0.30103	1.608526	1.729974	1.951823	1.183179	0.496238
1.385606	1.30103	1.164353	0.113943	0.361728	1.588832	1.738781	1.948413	1.183179	0.495765
1.414973	1.269513	1.136721	0.20412	0.380211	1.60206	1.756636	1.944483	1.247393	0.504046
1.383815	1.367356	1.120574	0.176091	0.30103	1.650308	1.702431	1.951338	1.21313	0.500301
1	1.32838	1.320146	0.643453	0.342423	1.567026	1.570543	1.959995	1.170039	0.495549
0.963788	1.392697	1.269513	0.518514	0.146128	1.396199	1.409933	1.955688	1.200281	0.499133
0.908485	1.292256	1.212188	0.643453	0.041393	1.382017	1.39794	1.963788	1.367524	0.522615
1.004321	1.255273	1.1959	0.531479	0.041393	1.318063	1.152288	1.95376	1.386854	0.523826
1.045323	1.230449	1.167317	0.531479	0.041393	1.553883	1.525045	1.948902	1.928817	0.588576
1.079181	1.232996	1.230449	0.662758	0.079181	1.40824	1.544068	1.944483	1.753528	0.567968
1.178977	1.227887	1.225309	0.653213	0.041393	1.555094	1.562293	1.944976	1.730947	0.565366
1.190332	1.201397	1.201397	0.662758	0.079181	1.676694	1.694605	1.943989	1.477446	0.534208
1.240549	1.060698	1.206826	0.544068	0.041393	1.4843	1.655138	1.939519	1.072937	0.478921
1.190332	1.178977	1.190332	0.908485	0.30103	1.440909	1.885926	1.940018	-1.11976	-0.08605
1.238046	1.161368	1.143015	1.004321	0.361728	1.535294	1.792392	1.926857	-0.86997	0.024028
1.190332	1.117271	1.146128	1.037426	0.491362	1.511883	1.89487	1.92737	-0.81904	0.044668

1.193125	1.10721	1.133539	1.0086	0.556303	1.49276	1.800717	1.926857	-0.77592	0.061053
1.206826	1.082785	1.10721	1.079181	0.544068	1.414973	1.756636	1.923762	-0.74049	0.073083

Table A2: Test for unit roots

		ADF Test			Phillips Peron Test			Overall Conclusion
Variable		Test	t-statistic	Conclusion	Test	t-statistic	Conclusion	
LAGRIC	τ_r	-3.68	-2.89	Stationary	-3.69	-3.04	Stationary	Stationary
	τ_μ	-2.97			-2.97			
	τ	-2.62*			-2.62*			
LTY	τ_r	-3.68	-1.50	Not Stationary	-3.68	-1.61	Not Stationary	Not Stationary
	τ_μ	-2.97			-2.97			
	τ	-2.63			-2.62			
LMANUF	τ_r	-3.69	-1.55	Not Stationary	-3.68	-1.54	Not Stationary	Not Stationary
	τ_μ	-2.97			-2.97			
	τ	-2.63			-2.62			
LIMPO	τ_r	-3.69	-2.00	Not Stationary	-3.68	-2.15	Not Stationary	Not Stationary
	τ_μ	-2.97			-2.97			
	τ	-2.63			-2.62			
LEXPO	τ_r	-4.32	-3.53	Stationary	-4.32	-3.55	Stationary	Stationary
	τ_μ	-3.58			-3.58			
	τ	-3.23*			-3.23*			
LCONSTR	τ_r	-3.68	-0.93	Not Stationary	-3.68	-1.26	Not Stationary	Not Stationary
	τ_μ	-2.97			-2.97			
	τ	-2.63			-2.63			
LMINI	τ_r	-3.69	-1.19	Not Stationary	-3.69	-1.19	Not Stationary	Not Stationary
	τ_μ	-2.97			-2.97			
	τ	-2.63			-2.63			
LF	τ_r	-4.39*	-6.60	Stationary	-3.69*	-5.54	Stationary	Stationary
	τ_μ	-3.61*			-2.97*			
	τ	-3.24*			-2.63*			

Table A3: Heteroscedasticity test results

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.652264	Prob. F(7,20)	0.7086
Obs*R-squared	5.204127	Prob. Chi-Square(7)	0.6351
Scaled explained			
SS	2.516196	Prob. Chi-Square(7)	0.9259

Table A4: Test for higher order serial correlation

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.028719	Prob. F(2,18)	0.9717
Obs*R-squared	0.089063	Prob. Chi-Square(2)	0.9564
