MEASURING THE SHADOW ECONOMY IN TANZANIA
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Abstract

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The main objective of this study is to measure the magnitude of the Tanzania shadow economy and Tax evasion using the monetary method which estimates a money demand equation in the manner suggested by Tanzi (1980, 1983).Measuring the magnitude of the shadow economy is important because the shadow economy distorts the national statistics. The major conclusions of this study can be summarised as follows: The size of the shadow economy has increased as a proportion of GDP from 10.3 per cent in 1996 to 15.5 per cent of GDP in 2013; the total value of tax evasion has increased from TZS 44,937,361,135.90 to TZS 1,363,723,232,889.30 in 2013; while the evidence also demonstrates that the rate of growth of the informal economy has been, on occasion higher than the formal economy.

Key words Shadow economy, underground, monetary method, national statistics JEL: O17, 011 H26, E59

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INTRODUCTION

A large volume of empirical research has been concluded in a variety of countries, and employing a variety of techniques, that are designed to obtain measures of the size of the underground economy. However, their findings have provided varied evidence (Giles, 1998).

The main objective of this particular study is to measure the magnitude of the Tanzania shadow economy using the monetary method which estimates a money demand equation in the manner suggested by Tanzi (1980, 1983).

The monetary approach is not the only method for estimating the shadow economy. Several other methods are used in practice and they tend to give different results (Scheider, 2000; 2012). There is for instance the survey method employed in practice but which tend to understate the results due to the fact that respondents may not want to be associated with working in the shadows. Another method requires the measuring of the total consumption of electricity in a country and then assuming and subtracting the quantity that is consumed for legitimate purposes. The difference being attributed to the shadow economy. Yet another approach is the Multiple Indicators Multiple Causes Model (MIMIC) (Garvanlieva, Andonov and Nikolov, 2012). This study intends to focus only on the monetary meyhod.

Measuring the magnitude of the shadow economy is important because the shadow economy distorts the national statistics. Indeed, the shadow economy is a challenge for national tax systems as unreported and under-declared economic activities hamper economic development. An off-shoot of this investigation is the calculation of the value of the tax evasion. Although, the results may be varied, it provides an indication of the magnitude of the problem.

By its nature the shadow economy is difficult to get accurate information about its economic activities because economic agents engaged in these transactions wish to remain concealed. This alone hinders agreement about the magnitude of the shadow economy relative to the registered economy.

The shadow economy consists of criminal activity, such as drug sales, smuggling, prostitution, gambling and other unlawful ventures, as well as otherwise legal transactions that are conducted in cash and unreported to tax or other competent authorities; this part of the shadow economy is also known as the "parallel economy." Table 6 in the Appendix presents a taxonomy of types of underground economic activities (Lippert, 1997; Katsios, 2006).

This paper is organised into five sections beginning with the introduction. The second section presents a brief review of the literature. Section three presents the data sources, data description and methodology of this study. Section four presents the results. Section five concludes.

REVIEW OF LITERATURE

This study uses the monetary approach to measure the shadow economy. This approach is sustained by the assumption that currency or cash is the primary means of payment in the shadow economy. A number of researchers have contributed immensely to its evolution:

The Guttmann (1977) approach based on the assumption that there is a stable relation between the ratio of currency to demand deposits and formal activities and suggested that a rise in the ratio signalled

an increase in the shadow economy. A major criticism of the Guttmann (1977) approach was that it ignores the effect of financial innovations on the currency to demand ratio.

Feige (1979) and his methodology followed a different route by employing the Fisher quantity theory of money to estimate the Gross National Product. The difference between the derived figure and that from national statistics was assumed to be the estimate of the shadow economy.

Tanzi (1980, 1983) however, introduced a novel model that was based on a currency demand function developed by Cagan (1958) and the equation of exchange. Tanzi incorporated assumptions such as hidden transactions use cash, increase in demand for cash equals an increase in the hidden economy , that a high tax burden is the main cause of a hidden economy and that there exists a base year when there was no shadow economy. This approach became extensively used by researchers. Consequently, it has also been subjected to criticisms. Acharya (1984) found that Tanzi did not state with sufficient precision what he was measuring nor was he satisfied with the assumptions that Tanzi made. Additional criticism came from Feige (1986) who determined that Tanzi's empirical results underestimated both the size and growth rate of the shadow economy (Greenidge (2005). Although it is difficult to assert that this a reasonable value of the shadow economy and that one is not, because of the fact that it is difficult to detect that which intends remain concealed.

However, Feige (1986) convincingly presents his case step by step by demolishing the pillars that hold up Tanzi's methodology. He begins by questioning the assumptions made by Tanzi, namely that:

(a) Currency is the preferred medium of exchange in the shadow economy.

(b) That income produced by a dollar in the shadow economy is the same as the amount of income produced by a dollar in the visible economy.

Feige (1986) dismisses and relegates Tanzi's contribution to the literature as merely, his relaxation of his third assumption that of treating the ratio of currency to checkable deposits in the visible (reported) economy as a stable function rather than as a constant over time. This assessment of Tanzi by Feige is rather harsh. It is like asserting that the only contribution made to aviation by the Wright brothers was to fix an engine to a winged vehicle. Tanzi, should receive credit for coming up with his methodology which opened the way for researchers to debate, refine and contribute to the debate about this important area of the economy.

Feige (1986) continues his antithesis on the methodology of Tanzi by criticising his use of a multiplicative functional form (loglinear) to estimate the observed currency ratio. Tanzi's choice of variables are also subjected to criticism for inconsistencies for instance to compute observed currency, Tanzi uses Currency /m2 (C/M2) rather than Currency/ Demand Deposit while for computing income velocity he uses M1 to calculate the size of the shadow economy and offers no explanation or justification. Previously, Acharya (1984) had also criticised Tanzi for using Gross National Product as a proxy for output while acknowledging the challenges inherent in such an undertaking. Further criticism was levelled at Tanzi's choice of a proxy for taxation, a critical variable for estimating the shadow economy, was considered inadequate as he had employed what he called a "weighted average tax rate on interest income" and a "ratio of personal income taxes to personal income net of transfers" both of which do

not reflect the average effective marginal tax rate. Finally, the assumption that only currency is employed in the shadow economy was placed in doubt with research findings that found that 25-30 per cent of informal transactions were made by non-cash means Smith (1982; 1985). On the basis of correction for these flaws in the work of Tanzi, Feige was therefore able to be certain that findings of Tanzi were underestimated. In reality, no system, process or tool is fool proof nor was it ever meant to be. Tanzi's enduring legacy is that his methodology gives an indication of the magnitude of the shadow economy and serves as an indicator of the extent of the problem. The important question is what policymakers do with this knowledge that matters.

Having observed the foregoing, it should be borne in mind that consensus seldom exists regarding accurate model specifications as indicated by the evidence. For instance, Tanzi (1980, 1983) adopts the ratio of currency to M2 as a dependent variable, whereas Feige (1986, 2005) uses currency to demand deposits; Spiro(1996) uses currency, real currency per capita, M1 excluding currency, or M2 excluding Currency as a dependent variable. Clearly researchers have disagreements too about independent variables due to the fact that observed currency holdings could be affected by multiple economic variables such as wages, interest rates, tax rates, financial innovations, unemployment, inflation and numerous others (Hassan and Suk-Yu, 2010; Bhattacharyya, 1999; Giles, 1999). It is a truism that the choice of dependent or explanatory variable is solely at the researchers discretion (Hassan and Suk-Yu, 2010).

A study by Schneider and Klinglmair (2004) of 24 African nations found, inter alias that Tanzania had a shadow economy in the region of 58.3 per cent of GDP, the second highest next to Zimbabwe estimated at 62.7 per cent of GDP. This

estimation represents a decline from its 1991 level of 26.21 estimated by Kitine (1993) using the monetary method. Schneider et. al. (2010) and Schneider (2012) provided new estimates for the shadow economies of 162 countries with Tanzania at 53.7 per cent of GDP in 2007, an improvement over the 58.3 per cent in 2000. However, their study employs the Multiple Indicators Multiple Causes Model (MIMIC). This methodology is reliant on the statistical theory of unobserved variables. The monetary approach, in contrast, examines only one indicator that is expected to capture all the effects of the shadow economy. Giles and Tedds (2002) criticised MIMIC for irrelevance of the causal and indicator variables used. The point is that regardless of indicator used, the result ends up in monetary terms. So on that basis the monetary approach may in fact be the most encompassing.

The MMIC Model has also been criticised by Breusch (2005) as "unconvincing as a framework for measuring the underground economy." Further to that "the treatment of unit roots and differencing that makes this a dynamic MIMIC model is also misguided."

These high informal sector proportions of GDP have been achieved despite an attempt by government to implement tax reforms by reducing individual income tax rates from 10-50 per cent to 7.5-35 per cent in 1992 while import duty on input imports was removed. Regrettably, tax reforms have not yet been successful in raising revenue productivity of the tax system (Osoro, 1995).

As regards accelerants of the shadow economy, the literature points to a number of determinants of the shadow economy such as increasing tax burden and social; security contributions as important factors accelerating underground economic activities. Economic agents continuously

make choices between labour and leisure based on the taxes they have to pay. In turn this pushes labour to enter the untaxed sector of the economy. Increased licencing requirements reflect the increased intensity of regulations and cause a decline in choices of economic agents. Employers on the other hand tend to transfer the burden of regulation on to employees' wages intensifying the employee motivation to enter the underground economy. Moreover, a lingering doubt about the efficiency of government expenditures may cause a decline in tax morale in society leading them to endeavour to pay the minimum of tax as possible. Bribery and corruption may rise due to economic agents trying to stay in the shadow/ unregistered sector of the economy (Ogunc and Yilmaz, 2000).

In conclusion, the literature demonstrates that there is widespread interest and concern from researchers, academics and policy makers about the shadow economy around the world. In Sub-Saharan Africa, however, academic economic interest in the topic seems to be at a low. This is most likely due to the difficulties and frustrations inherent in this particular field. It is hoped that this paper will contribute to the literature and spark debate. Economic decisions that rely on incomplete official macroeconomic data are more likely to be ineffective.

DATA SOURCES, DATA DESCRIPTION AND METHODOLOGY

This study uses an indirect method known as the monetary approach employing an aggregated data set to estimate a money demand equation in order to determine the size of the informal/ underground economy in Tanzania. It is a method used extensively in the literature to measure the underground economy. This approach has been utilised by (Filho, 2012; Ahumada, Alvaredo and Canavese, 2007; Iqbal,

Qureshi and Mahmood, 1998; Greenidge, Holder and Mayers, 2005; Ahumada, Alvarado, Canavese and Grosman, 2009; Ahmed and Ahmed, 1995; Shabsigh, 1995; Haque, 2013). It is underpinned by the concept that the underground economy's transactions are veiled from authorities and therefore depend on currency to carry out transactions. It follows therefore, that the underground economy employs relatively more cash than the visible economy as its modus operandi to traverse undetected.

An increase in informal activity increases money demand. Consequently, variables that influence the underground economy such as direct and indirect tax burden, should ideally be included in the estimated money demand equation. In this paper, government expenditure ratio to GDP is used to represent the tax burden, also included is real GDP per capita, real interest rates (to incorporate opportunity cost of holding cash) and the ratio of currency to money supply or M2.

Data Source

Annual data on currency in circulation, M1 and M2, Real GDP per capita annual growth rate, Government expenditure are drawn from the World Bank data base. Data are collected from 1965 -2013. The theoretical justification for the selected variables in the empirical model is as follows:

(i)   This research hypothesizes that as the taxation level increases economic agents are encouraged to evade taxes through the use of currency and thereby raising the demand for currency and consequently, the ratio of currency holdings to money currency/M2 (coefficient is expected to be negative).

(ii)   The real interest rate is included as it is expected that a

higher real interest rate may increase the opportunity cost of currency holdings thereby leading to a decline in currency demand. Consequently, the effect of an increase in real interest rate on the demand for currency is expected to be negative (Coefficient is expected to be negative).

(iii) An increased level of economic development reflected and defined in terms of annual growth rate in per capita gross domestic product is anticipated to decrease the demand for currency as economic development is assumed to replace currency by other financial instruments. Consequently, we anticipate a decline in currency/M2 ratio when the economy experiences rapid economic growth. (The coefficient sign is expected to be negative).

Data Description

Data used in this model are currency money supply ratio, Government expenditure, and real rate of interest. The most widely used measure of broad money is M2. This is the main measure of the money supply and is the economic indicator generally used to measure the amount of liquidity in the economy as it is relatively easy to track. For tracking the variable that induces economic agents to conceal transactions, we use government expenditure as ratio of GDP.

Methodology

The model estimation is based upon the work of Tanzi (1980, 1983) model but with some modification to suit the Tanzanian economy. Moreover, currency demand methods including those of Tanzi (1980, 1983) are built upon the regression model with multiple time series variables. As previously alluded to the model has been utilised by Bagachawa and Naho, 1994; Filho, 2012; Ahumada, Alvaredo and Canavese, 2007; Iqbal, Qureshi and Mahmood, 1998; Greenidge, Holder and Mayers, 2005; Ahumada, Alvarado, Canavese and Grosman, 2009; Ahmed and Ahmed, 1995; Shabsigh, 1995; Haque, 2013.

The first step, in this approach is to specify and estimate a demand function for currency with the following assumptions.

Model assumptions
- All activities in the underground economy rely on currency for transactions. This includes RTGS and debit cards and mobile money. Even where taxes were absent, the currency ratio would be impacted by illegal and criminal activities such as gambling or smuggling to name a few.
- The velocity of money for currency in the underground economy is the same as that of narrow money M1 or that of the legal money or an average of these two.
- The higher the government expenditure as a proportion of GDP the larger the underground economy and the money demand.

The second step is to run the model again and set government expenditure (GE) the proxy for taxation equal to zero to obtain an estimate of the amount of cash demanded in the absence of incentives to conceal transactions. The third step is to obtain the difference between observed currency and the currency under no incentives which will reveal the hidden economy. The fourth step is to multiply the above result by the velocity of circulation.

Empirical Model

The basic regression equation for the currency demand as suggested by Tanzi (1980, 1983), is the following:

$$Cr = f \left(RGDP + GE + Ri + Dep\ int + (m1/m2)_{t-1} \right)$$

Where

> Cr = Currency holdings ratio
> RGDP= Real GDP per capita growth rate (annual)
> GE =   Government expenditure % of GDP
> Ri = Real interest rate
> Dep int = Deposit int rate (annual)
> (M1/M2) $_{t-1}$ = Lagged currency ratio

4. EMPIRICAL RESULTS

The model summary in table 1 below highlights that R squared= 0.965 implying that 97 per cent of cash holdings can be explained by the predictor variables. (i.e.

that the variables explain 87 per cent of cash holdings), that variation in demand for currency can be explained by the estimated ANOVA analysis equation.

$$25.169 + (1,292 \times Dep) + (0.474 \times Lag) + (0.777 \times Real) + (3.047 \times gdp)$$

Table 1: Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.982[a]	.965	.951	1.55622
a. Predictors: (Constant), M1M2 - Lagged, GDP Per Capita Growth (%), Real Interest Rate (%), Deposit Interest, Government Expenditure (%) GDP				

The ANOVA analysis displayed in table 2 highlights that the F-statistic indicates a perfect fit with the equation. Each included variable contributes to the model.

Table 2: ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	805.324	5	161.065	66.506	.000[b]
	Residual	29.062	12	2.422		
	Total	834.386	17			
a. Dependent Variable: Cash Holdings						
b. Predictors: (Constant), M1M2 - Lagged, GDP Per Capita Growth (%), Real Interest Rate (%), Deposit Interest, Government Expenditure (%) GDP						

The coefficients of the predictor variables in table 3 indicate that the predictor variables are statistically significant (from top to bottom) at the 0,01 level of significance for deposit interest and real interest and at the 0,05 GDP per capita and government expenditure and M1M2 at the 0,10 level of significance. Furthermore, it sustains that Deposit interest rate contributes the greatest weight, followed by Government expenditure, Real interest rate and finally M1M2 lagged in that order. Interestingly, contrary to expectations the coefficients all have a

positive sign. That is in the case of Tanzania, the choice to increase cash holdings is determined by these variables. It could be that Deposit rates , real interest rates, GDP per capita growth and Government expenditure which when increased should have a negative effect on cash holdings are not having that effect. This may be attributed to innovative payment systems such as mobile money transfer. Money earned in the shadow economy is spent in the formal.

Table 3: Coefficients[a]		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	25.169	10.465		2.405	.033
	Deposit Interest	1.292	.246	.470	5.253	.000
	Real Interest Rate (%)	.777	.115	.450	6.764	.000
	GDP Per Capita Growth (%)	3.047	.774	.512	3.935	.002
	Government Expenditure (%) GDP	.810	.279	.350	2.897	.013
	M1M2 - Lagged	.474	.228	.192	2.075	.060
a. Dependent Variable: Cash Holdings						

Correlations matrix

Table 5 below reports the results of 14 correlations. Statistical hypotheses are:

H_0: p = 0 [there is no actual correlation]

H_A: p ≠ 0 [this is a correlation]

The null hypothesis was accepted in the following instances; real interest rate, GDP per capita growth, and government expenditure. The null hypothesis was rejected in regard to deposit interest at the 0.05 level and M1/M2 at the 0.01 level.

Table 4: Correlations		Depos	Real	GDP	Gover	M1/	C
Deposit Interest	Pearson	1	.234	-	-.266	.044	.
	Sig. (2-tailed)	-	.335	.003	.271	.857	.
	N	19	19	19	19	19	1
Real Interest Rate (%)	Pearson	.234	1	-.062	-.253	-.318	.
	Sig. (2-tailed)	.335		.802	.296	.185	.
	N	19	19	19	19	19	1
GDP Per Capita Growth (%)	Pearson	-	-.062	1	.769[**]	.542[*]	.
	Sig. (2-tailed)	.003	.802		.000	.016	.
	N	19	19	19	19	19	1
Government Expenditure (%) GDP	Pearson	-.266	-.253	.769[**]	1	.710[*]	.
	Sig. (2-tailed)	.271	.296	.000		.001	.
	N	19	19	19	19	19	1
M1/m2	Pearson	.044	-.318	.542[*]	.710[**]	1	.
	Sig. (2-tailed)	.857	.185	.016	.001		.
	N	19	19	19	19	19	1
Cash Holdings	Pearson	.528[*]	.439	.247	.488[*]	.598[*]	1
	Sig. (2-tailed)	.020	.060	.308	.034	.007	
	N	19	19	19	19	19	1
**. Correlation is significant at the 0.01 level (2-tailed).							
*. Correlation is significant at the 0.05 level (2-tailed).							

Furthermore, in order to arrive at the estimates of the shadow economy and tax evasions, it is necessary to compute the components of illegal money, legal money, tax evasion and velocity of money as indicated below:

Illegal money

Subsequent to the estimation of currency demand above, the size of the shadow economy and tax evasion were computed as follows (Iqbal, Qureshi and Mahmood, 1999; Ahmed and Hussain, 2008):

The equation for the level of illegal money can be expressed as follows:

$$(IM) = [(M1/M2)\, t - (M1/M2)\, wt.]\,…\,…..\tag{2}$$

Legal money

The difference between the sum of currency (M1) and total money supply (M2) and the estimated illegal money yields legal money (LM).

The equation for legal money can be expressed as follows:

$$LM = M2 - IM\,…………….\quad…….\quad…..\tag{3}$$

Velocity of money

The income velocity (IV) of money can be expressed as an equation as follows:

$$IV = {GDP}/{LM}\quad……\quad……….\quad………..\tag{4}$$

It is assumed that the velocity of illegal money is the same as that of legal money. Thereafter an estimate of the shadow economy can be obtained by multiplying illegal money by the income velocity of money. The equation for the shadow economy can be expressed as follows:

$$SE = IM \times IV\quad……….\quad……..\,……………\tag{5}$$

Tax Evasion

Finally the level of total tax evasion (TE) in Zimbabwe can be computed multiplying the estimates of the shadow economy (SE) by government expenditure (GE/GDP) as follows:

$$TE = SE * (GE/GDP)\,………..\quad……..\,…….\,……\quad…\tag{6}$$

4.1 Estimates of the Shadow Economy and Tax evasion

The estimated measure of the level of the shadow economy and tax evasion for the period 1995-2013 are reported in table 5 below. The results indicate that the shadow economy grew from TZS 389,068,061,782.87 to TZS 8,235,043, 676,868.00 in 2013. Column (f) highlights that the shadow economy as a proportion of GDP was approximately 10.3 per cent in 1996 increasing to 15.5 per cent of GDP in 2013. These findings are at variance with those of Schneider and Klingmair, (2004). The level of tax evasion is reported in column (e). It reports that tax evasion rose from TZS 44,937,361,135.90 in 1996 to TZS 1,363,723,232,889.30 in 2013.The estimates of tax evasion are based on a strong foundation that that incomes in the shadow economy would be taxed at the

commensurate rate as those in the formal or visible economy.

With regard to the growth rates of the shadow economy as compared to the formal economy reported in column (g) and (h) indicates that the shadow economy grew at rates of 102.2, 13.4, 19.5, 4.4, 16.8 in 1998 2000, 2005, 2010, and 2013, correspondingly, while corresponding growth rates in the visible economy for the same periods were 24.3, 11.4, 12.5, 12.6, and 15.9.

This apparent higher growth rates of the shadow economy appears to be a crucial factor contributing to fiscal deficit of government. This is because government expenditure expands with the greater economy (including formal and informal) whereas tax revenues, grow at the slower pace of the formal economy.

Table 5: Estimates of Shadow Economy and Tax Evasion in Tanzania

							(Tanzania Shilling)	
			Velocity		Shadow		Growth rate	Growth rate
			Velocity		Shadow		Growth rate	Growth rate
Year	Illegal	legal	of Legal	Shadow	Economy	Tax	of shadow	of GDP
	Money	Money	Money	Economy	(% of GDP)	Evasion	Economy	%
	(a)	(b)	(C)	(d)	(f)	(e)	(g)	(h)
1995	0	7.57805E+11	4.0	0	0	0.0	0.0	0
1996	76892025600	7.44604E+11	5.1	3.89068E+11	10.3	44937361135.9	0.0	19.8
1997	62206329900	8.64863E+11	5.4	3.38302E+11	7.2	28011420076.0	-13.0	19.9
1998	1.01877E+11	9.25107E+11	6.7	6.84034E+11	11.0	83725736395.8	102.2	24.3
1999	1.14691E+11	1.10284E+12	6.5	7.51121E+11	10.4	87430452299.4	9.8	14.0
2000	1.32221E+11	1.26547E+12	6.4	8.51838E+11	10.4	99494653734.5	13.4	11.4
2001	1.80106E+11	1.696E+12	5.4	9.66401E+11	10.6	114615132361.1	13.4	10.4
2002	2.50633E+11	2.10494E+12	5.0	1.24362E+12	11.9	163411184631.5	28.7	12.9
2003	3.45409E+11	2.43343E+12	5.0	1.71852E+12	14.2	263792792409.6	38.2	13.7
2004	4.31753E+11	2.72203E+12	5.1	2.21609E+12	15.9	374519927785.0	29.0	13.3
2005	6.04878E+11	3.64585E+12	4.4	2.64878E+12	16.6	465391176131.8	19.5	12.5
2006	7.33353E+11	4.4311E+12	4.0	2.9693E+12	16.6	520518424028.9	12.1	11.0
2007	9.72125E+11	5.25146E+12	4.0	3.87786E+12	18.5	747651926816.6	30.6	14.4
2008	1.05393E+12	6.40485E+12	3.9	4.07785E+12	16.5	711177344535.5	5.2	15.5
2009	1.24239E+12	7.53775E+12	3.7	4.65008E+12	16.5	811903113560.3	14.0	12.2
2010	1.43936E+12	9.57331E+12	3.4	4.85535E+12	15.0	783168311084.2	4.4	12.6
2011	1.72663E+12	1.12947E+13	3.3	5.73769E+12	15.3	939259567380.2	18.2	14.0
2012	1.99718E+12	1.26664E+13	3.5	7.05087E+12	15.8	1185957150776.7	22.9	16.1
2013	1.96638E+12	1.26972E+13	4.2	8.23504E+12	15.5	1363723232889.3	16.8	15.9

CONCLUSIONS AND POLICY IMPLICATIONS

This paper has estimated the existence of a shadow economy and tax evasion in Tanzania over the period 1995- 2013 using the monetary method as employed by Tanzi (1980, 1983) and by Iqbal Qureshi and Mahmood (1999) among others. When one estimates the loss of tax revenues and the demand on government services by the economic activities taking place in the shadow economy, one may draw the conclusion that it could be a major contributing factor for any fiscal deficit. This leads to an implicit higher uncertain cost of doing business particularly when the element of discretion that is exercisable by public officials is wide.

The major conclusions of this study can be summarised as follows:

a) The size of the shadow economy has increased as a proportion of GDP from 10.3 per cent in 1996 to 15.5 per cent of GDP in 2013.

b) The total value of tax evasion has increased from TZS 44,937,361,135.90 to TZS 1,363,723,232,889.30 in 2013.

c) The evidence also demonstrates that the rate of growth of the informal economy has been, on occasion higher than the formal economy.

This study does not pretend to provide a detailed plan that would reduce the size of the informal economy. However, actions required for reform agenda include economic liberalisation, fiscal discipline (austerity), greater space for the private sector, tax reforms consisting of lower rates and a broadening of the tax base, enhanced transparency in decision-making, and policy consistency are possible areas in which policy alterations need to be made. Isolated piece-meal actions would be a hindrance. Corruption, in particular requires a comprehensive measure of reforms in order to successfully tackle the problem and should be a crucial plank in the reforms of government.

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