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ENHANCING TRANSPARENCY OF TAX ADMINISTRATION



**Satish C. Wadhawan, Howard University
Clive Gray, HIID**

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I. Introduction

Africans invested much hope in the promise of independence to unleash creative and material resources for building a great new society. However, the African economic condition today remains impoverished. It is well beneath what it could be and should have been at this time, given Africa's resources and her potential. Some African nations may be better off than others, but none can be regarded as outside the general condition. Poverty and economic deprivation, social upheavals, and public disillusionment are the main features of contemporary Africa.

Governance in Africa today leaves lot to be desired. Far more could have been achieved by those who had the privilege and opportunity to conduct the political and economic development of the continent. There is misuse of power and authority to govern and therefore "official corruption" of varied sorts is pervasive. Therefore, the resources that are badly needed for creating goods, services, and employment are, in one way or the other, siphoned off, derailing of the process of national development.

Against the background of the dismal record of African government involvement in economic activity on the one hand, and its failure to effectively perform normal tasks of governance, a change in the thrust and style of governance is warranted. What is needed is to cultivate a governance that constrains the political and administrative discretion of the state while strengthening the fiscal integrity. Obviously, the area of governance which should receive a new focus and which straddles both the economic and the political is the area of accountability and transparency which is rooted, to a very large extent, in concern about corruption in government.

Much governance in Africa today and in the recent past has been without transparency and accountability. Laws and decrees are announced without the benefit of public debate. Sometimes laws are made retroactive, making previously legitimate actions illegal or criminal. What is lost in all this is the fact that governance is public not secret and people who do not know how or why certain laws are enacted cannot be expected to understand, respect, or abide by them. It would be nothing short of "official terrorism" if people are completely excluded from their own governance and subject to arbitrary treatment.

At the very least, a system that precludes accountability is not likely to be responsive to the people since its authority and credibility does not arise from them. But a process based on openness that fosters interaction and feedback between the administration and the public can



provide checks and balances. It could to compel recognition of the governed and therefore instil sufficient confidence in them of its propriety and credibility. Greater transparency and accountability in the government process is crucial to depoliticizing of public administration and securing the social consensus and acceptance necessary for the successful implementation of economic programs and policies.

Transparency and accountability lie at the very core of good governance and open economic strategies associated with liberalization. In particular, transparency of tax administration facilitates an efficient tax system. It limits the space for political and administrative discretion and therefore corruption and malfeasance in the mobilization and allocation of resources. Transparency as applied to a tax system is reflected in terms of the completeness and quality of information available to the public and the decision-makers in the tax administration, especially in regard to the nature, magnitude and consequences of tax evasion and non-compliance. It is useful to distinguish between "internal" and "external" transparency. While internal transparency refers to the quality and completeness of information available to decision-makers within the tax administration, external transparency refers to the information available to the general public. Both kinds of transparencies are crucial to an efficient tax system.

The hypothesis underlying this research is that enhancing the transparency of tax administration would improves revenue performance through better compliance and enforcement. In the context of sub-Saharan Africa , this postulate rests on at least three considerations: firstly, it augments pressures on politically influential and financially capable taxpayers (hereinafter termed "oligarchs") to meet their tax liabilities; secondly, by satisfying other taxpayers that the oligarchs' tax compliance is improving, it enhances their own willingness to comply; and thirdly, it diminishes opportunities for corruption in the revenue services (or, what is the same thing, increases the cost to perpetrators).

The reality is that in most African countries, uneven compliance and enforcement cause shortfalls in revenues that have two main consequences: (i) they lead to a fiscal deficit that is usually monetized, aggravating inflation and creating macroeconomic instability that in turn discourages investment, job creation, and exports; and (ii) it undermines the public sectors' ability to provide social and economic infrastructure to support and promote development. These consequences affect equity in various ways: the poor have fewer job opportunities in the formal sector lowering their incomes; and the public education and health systems expand too slowly (or even contract), thus depriving the poor of human capital on the basis of which to improve their lot.

Apart from the improvement in revenue performance, transparency in tax administration is likely to have a positive domino effect on growth and equity in other ways too. For instance, it serves to alleviate psychological disillusionment and public apathy or confusion so glaring and so seemingly intractable in African condition. Overcoming this cynicism is fundamental to conditions congenial not only to promoting tax compliance but also to facilitating determined, coherent, participatory decisions and plans of action to overcome the problems and obstacles to

development.

It is appropriate at the outset to sound a note of caution. While we strongly believe that revenue performance will improve if the taxpaying public acquires better insight into the nature and performance of the tax system than it now has, we do not consider any program of measures generated by our study to be a panacea for ensuring complete or almost complete (say 90 percent) taxpayer compliance. The fact is that if such measures achieve nothing more than increased compliance by a fraction of one percent, the resulting net social benefit (which of course is not equivalent to, and almost certainly less than, any net increase in tax collections, which are in the first instance simply a transfer from taxpayers to the state) are likely to be positive and will hopefully exceed the cost of the EAGER research.

The main body of this paper is divided into five principal sections: Section II provides an overview of the tax systems and the institutional setting for transparency in the tax administration of sub-Saharan Africa with special reference to Tanzania and Madagascar. Section III is devoted to the perspectives on tax compliance. The focus is to examine the theoretical and empirical literature why people comply or fail to comply with tax reporting requirements. Section IV is devoted to the nature and extent of the problem of tax evasion in sub-Saharan Africa with particular focus on Tanzania and Madagascar. Section V examines the main facets of transparency that are crucial to revenue performance in sub-Saharan Africa, especially Tanzania and Madagascar. The paper ends with section VI that gives the conclusion and identifies the directions of proposed research activity.

II. The Institutional Setting for Transparency

The tax system in sub-Saharan Africa is different from those in other regions in two major respects: First, the tax revenue in sub-Saharan Africa has increased rapidly since the mid-1960s. For instance, as a share of GDP, it exceeds or at least equals that in other regions of the developing world. By 1979 the tax revenue to GDP ratio had reached 17.0 level. This figure is quite high compared with only 12.4 percent in South Asia, and only 16.8 and 17.9 percent in East Asia and Latin America respectively, despite the much higher per capita incomes in these regions (Shalizi and Squire, 1988). Further, the average increase in revenue was about 20 percent greater than that of the nominal GDP (Shalizi and Squire, 1988). Given that the income per capita had been low and had barely been increasing, this is a remarkable revenue generating achievement. To a large extent this reflects the fact that the traditional tax bases grew more rapidly than the economy as a whole. Second, compared with other regions of the world, the generation of revenue is heavily concentrated on international trade in sub-Saharan Africa. In fact, taxation of trade accounts for about 40 percent of total revenue, whereas it is only about 35 percent in South Asia and and less than 30 percent in East Asia and Latin America (Shalizi and Squire, 1988).

While the tax-revenue generation is relatively high in sub-Saharan Africa, it falls short of

public expenditures. There have been large budget deficits in the past and they continue to increase. For instance, the budget deficit in 25 countries of sub-Saharan Africa, between 1966 and 1982, increased from 4.2 percent of GDP to 9.7 percent (Shalizi and Squire 1988). Even though reductions in expenditures may well be desirable, the magnitude of existing deficits provides a strong argument for augmenting the tax revenues in the near future.

The contribution of taxes on international trade is unusually high -- in part because of the size of the international trade base and in part because of the difficulty of implementing domestic commodity taxes -- and since these taxes are usually thought to have significant adverse effects on the efficiency of domestic production, the economic costs of this taxation is likely to be high. On the other hand, more extensive reliance on income taxes, for instance, is not likely to be feasible, at least in the short run. Also, *ad hoc* revenue-generating measures may entail a net increase in the costs of taxation. Any proposed effort to generate more tax revenue must primarily build on existing tax instruments. Enhancing transparency of tax administration to galvanize the revenue-netting process may be one of the more prudent and desirable course to adopt.

A brief overview of the salient aspects of the tax systems of the two countries of sub-Saharan Africa, viz., Tanzania and Madagascar, that constitute the focus of the proposed EAGER research activity are described below.

II.1. Tanzania's Tax System and its Institutional Setting

The share of tax revenue in Tanzania's GDP is low. The current official average revenue to GDP ratio is 14 percent. But GDP is underestimated so the effective revenue ratio is approximately 8-10 percent, a figure well below the average of 18-20 percent for sub-Saharan African countries (World Bank Report No. 14982 - TA, 1996)

The relative importance of various taxes in Tanzania is summarized in Table 1. Import duties and income taxes account for approximately 60 percent of the total taxes and make for 7.4 percent of GDP. The relative importance of income taxes has declined overtime -- being 5.3 percent of GDP in FY95, 3 percent in FY90 and rising to 3.8 in FY95. Within the income tax group, company taxes are the most important taxes and account for 20 percent of the total income taxes, followed by PAYE. The contribution of PAYE to the tax revenue has also declined overtime -- it accounted for 7 percent of the total taxes in 1980's as compared to about 4 percent in FY95. The next in importance are the import taxes which made for 29 percent of the total taxes in the FY95. Within the group of import taxes, custom duties account for 16 percent and the sales and excise taxes for 13 percent. Together sales and excise taxes account for 26 percent of the total tax revenue which is about 3.2 percent of the GDP in the FY95 -- which is in fact a decline from 4.7 percent of GDP in the FY90. In the FY95, other taxes accounted for approximately 14 percent. Tanzania's revenues are not responsive to income growth and inflation. Estimates of income tax elasticity are in the range of 0.7 to about 0.94 (Osoro, 1993). One primary reason for the low tax effort is the fact that the tax system as an instrument for fiscal

incentives has expanded at the expense of revenue collection. Also, until recently, payments of assessed import duties could be staggered, which contributed to the accumulation of arrears and affected revenue growth relative to inflation. There is a need to restructure the institutions for

Table 1
Tanzania's Tax Revenue(in percentage)

	FY90	FY91	FY93	FY94	FY94	FY95
Total Revenue	14.1	15.7	16.8	12.9	15.0	14.5
Tax Revenue	12.1	14.0	14.8	11.6	13.7	12.3
Import Taxes	3.4	3.7	3.7	2.5	3.5	3.6
Customs Duty	1.8	2.0	2.0	1.3	1.8	2.0
Sales and Excise tax on Imports	1.6	1.7	1.7	1.2	1.8	1.5
Domestic Sales and Excise Taxes	4.7	5.3	5.6	3.6	4.4	3.2
Income Taxes	3.0	3.8	3.9	3.6	3.6	3.8
Other Taxes	1.0	1.1	1.6	1.8	2.2	1.7

Source: World Bank

tax administration inherited from the colonial period, which used to handle transactions for a few state monopolies and now have to accommodate more clients in a market economy. The economy has large agricultural and informal sectors, which are yet to be brought in to the tax net.

The government has made repeated efforts, including the setting up of the Presidential Commission of Inquiry into Taxation and Expenditure (1992), to reform the tax system and raise revenue. Despite efforts, revenue improvements have been far less than expected, and the official tax to GDP ratio is lower now than it was in FY92. The main culprits are failure to expand the tax base, prolificity of fiscal incentives, abuse of tax exemptions, and weak tax administration.

Since the mid-1980's, there has been a significant simplification of customs duties from over 20 different rates with and a maximum rate of 100 percent to just four rates and a maximum rate of 50 percent as of FY95. The scaled down four non-zero rates of nominal duties since FY95 are: 5, 20, 30, and 50 percent. However, the effective duty rates are much lower on account of discretionary exemptions and substantial tax evasion. During the period FY94-FY95, the government made serious efforts to improve the performance of customs. It tightened procedures for assessment, collection, and documentation of customs duties. Further reform in

the same direction were introduced in the FY96 budget. However, there has not been any significant improvement in revenue performance in real terms.

The tax base for the sales tax is narrow and is primarily focused on manufactures. There are differential rates for services (5, 10, and 15 percent) and for goods (25 and 30 percent). Also, both imported and domestic goods bear the same rates. There are also some specific rates for goods. Excise duties cover soft drinks, alcoholic beverages, cigarettes, cosmetics, perfumes, and petroleum products.

The single most important source of income tax is corporate income tax. Until recently the income from resident and non-resident companies has been taxed at different rates at 35 and 40 percent respectively. Also, income from different sources are not taxed at uniform rates. Parastatals have preferential treatment on account of implicit subsidies through tax waivers. There are other concessional provisions for corporations, such as: (a). tax holidays; (b). an initial investment allowance of 20 percent partly to offset the original cost and depreciation allowance; and (c). privileges to carry forward losses.

Personal income tax covers those who are not covered under the PAYE tax (about 250,000 individuals). Since under PAYE the tax is deducted at source, it is easy to administer and is more efficient. Until the FY95, the personal income tax had only six income brackets and the marginal rates were between 5 and 30 percent. Some incomes like the interest income (TSh 150,000) and fringe benefits were tax exempt. Also there are minimal tax credits for various purposes, including marriage and child relief. The effective income tax rates have been regressive especially due to the exclusion of fringe benefits from the taxable income. The focus of past tax reforms has been on reduction of rates for upper income groups and broadening the base. The lowest income groups were negatively affected the most since the fringe benefits, and personal allowances, and inflation adjustment were neglected. Some sources of income were taxed at different rates. For example, dividends were taxed at the rate of 20 percent whereas capital gains were taxed at 20 to 30 percent. Tax evasion remains difficult to track especially in view of poor record keeping.

II.2. Malagasy Tax System and its Institutional Setting

Madagascar, like most of the sub-Saharan African countries, has relied heavily on trade taxes as the major source of fiscal revenue. The tax system in Madagascar can be broadly described in terms of three major categories. First, domestic direct taxes which include income taxes, property taxes, and other taxes. Second, domestic indirect taxes which include the value added tax and the consumption tax. Third, international trade taxes which include export and import taxes. The structure of the Malagasy tax system, described below, is summarized in the Table 2.

Table 2.
The Malagasy Tax System

Source	Tax	Rates	1988 revenue* and (% of Tax Revenue)	
Domestic Direct Taxes	- Profits (IBS)	- 45% for commerce	22.7	(6)
	- Individual (IGR)	- 35% for other activities	22.2	(6)
	- Property	- Progressive max. Rate: 45%	5.1	(1)
	- Other	- (see tax)	6.5	(2)
Domestic Indirect Taxes	- Value-added (TUT)	- 15% except for exports, necessities and agricultural products	40.3	(11)
	- Consumption - tax (TC)	- 5% to 10 for most of - 300 products (see tax)	28.8	(8)
Trade Taxes Indirect Taxes	- Customs duty (DD)	- 5% to 45% (see tax)	18.3	(5)
	- Import tax (TI)	- 5% to 80% (see tax)	73.1	(20)
	- other import taxes	- (see tax)	11.2	(3)
	- Export taxes	- Specific tax on vanilla, cloves, coffee (see tax)	43.8	(12)
	- value-added (TUT)	- 15% on imports	54.1	(15)

* in billion of FMG

Source: Author's elaboration from J. De Melo and Guillaumont et al. (1990)

a. Domestic Direct Taxes

Tax on company profits (IBS). Companies are subject to a tax on profits (Import sur les Benefices de Societes, IBS) which is incident on net profits from all origins, including activities abroad. Foreign companies are taxed only to the extent of their profits that are realized in Madagascar. In 1983, the tax rate on company profits was made uniform and was fixed at 45 per cent. Before that, companies faced different rates of taxes depending on their economic activities. However, in 1987, in order to encourage industrial activity the following preferential rates were applied: 40 percent for industrial enterprises, 35 percent for agricultural enterprises, and 45 per cent for commercial enterprises. However, the adoption of differential rates across activities gave an incentive to arbitrage by shifting towards activities with a lower tax rate. In addition it created administrative difficulties. As a result, effective January 1, 1989, the tax rates were once again set at 45 percent for commercial activities and at 35 percent for agriculture, industry, mining, hotels, and transport. Moreover, the fixed portion of the minimum tax levy was no longer differentiated according to the legal form of the company and was set at FMG 400,000 in all cases. On the other hand, the variable portion of the minimum levy was increased from 0.1 to 0.5 percent of the sales revenue.

Clearly the frequent changes in the structure of the IBS resulted in difficulties that the Malagasy authorities had to face in settling on a satisfactory tax on company profits. Also, the numerous exemptions and differences in tax rates must have provided strong incentives for arbitraging across tax categories if not for outright evasion since the tax rates are quite high.

Tax on individuals (IGR). The personal income of individuals was subject to two progressive taxes: a tax on wages and salaries (Impot sur les Revenus Salariaux et Assimiles, IRSA) and a tax on non-wage income (Impot sur les Revenus Non Salariaux, IRNS). The IRSA is independent of any revenue from sources other than wages and salaries, all of which are subject to the IRNS.

A major reform on the personal income tax system was introduced effective January 1, 1989. For the IRSA, it involved a marginal tax structure with 9 “tranches” and a maximum marginal rate of 40 percent beginning at FMG 500, 000 per month. For the IRNS, the reform involved a marginal tax structure with 8 “tranches” and a maximum marginal rate of 50 percent beginning at FMG 5 million per annum.

A new reform in 1990, introduced a general tax on revenue (Impot General sur les Revenu, IGR), which was still strongly progressive and with a maximum marginal rate of 45 percent. The IGR, although not purposely set by the authorities to decrease the average tax rate, served to eliminate the regressive elements that the previous system incorporated. The total revenue, independently of its origin, would constitute the criterion on the ability to pay taxes, so that some of the differentiations and injustices hidden in the old system could be eliminated.

Taxes on property. Taxes on property include: (i) taxes on real estate which include a land tax levied annually on the estimated productive value of land based on the type of crop used, a tax on buildings levied on the rental value of buildings, and a surtax on buildings; (ii) death and gift duties which are levied on the net value of property *causa mortis* or *inter vivos*; and (iii) property transfer duties which are levied on sale, lease or exchange of property.

Other taxes on income. Other taxes on income include taxes on capital income for which the tax rates vary from 45 per cent on dividends to 25 percent on other profits distributed by companies, and a tax of 15 percent on transfers abroad.

Collection of the direct taxes described above is low. Administrative capacity of central and local tax authorities is weak. Furthermore, the absence of an accounting system for taxpayers worsen the situation, since they do not have verifiable accounts. Indeed, eighty percent of the approximately 10,000 businesses subject to IRSA are taxed on a presumptive basis. Underestimation of income is therefore a widespread phenomenon.

b. Domestic indirect Taxes

The Malagasy domestic indirect tax system is based on two major types of taxes: a value-added tax (Taxe Unique sur les Transactions, TUT) and a consumption tax (Taxe a la Consommation, TC).

Value-added tax (TUT). The TUT is a tax on value added which has a fixed rate of 15 percent; before 1983 it was 10 percent. The TUT is applied to all sectors involved in local production including the services sector, and to imports. Items excluded from the coverage of this tax include the necessity consumption goods, agricultural products and exports. The TUT is a major source of fiscal revenues. In fact, between 1981 and 1988, an average of 10 percent of the fiscal revenues were attributable to this tax. Besides, the TUT has the merit in that it is not distortionary between sources, although exemptions between activities can be viewed as distortionary.

Consumption Tax (TC). The second major tax on goods and services is the consumption tax which covers more than 300 products including many inputs. A large number of goods which are excluded from the TUT are subject to the TC. The TC comprises multiple rates which depend on the type of product. It ranges from 5 percent to 500 percent, although most products are taxed at 5 percent or 10 percent. [Other indirect taxes include taxes on insurance premium and motor vehicle but represent a negligible share of the fiscal revenue (0.9 percent in 1988)].

c. Taxes on International Trade

Import taxes in Madagascar serve two purposes: to protect the local industry against imports, and to raise fiscal revenue. Prior to 1988, restraints applied on imports included quantitative restrictions (QRs), customs duties, import taxes, consumption surcharges, and special import surcharges. After the fiscal reform of 1990, import duties were reduced to a custom duty, a fiscal duty on imports, a value-added tax on imports (see above), and import duties on petroleum products.

The main purpose of quantitative restriction (QRs) in Madagascar was to overcome the shortage of foreign exchange. Moreover, imports of goods for which local production could satisfy demand were prohibited. QRs were eliminated completely in 1988 and 1989.

Custom duty (DD). The custom duty (Droit de Douane a l'entree, DD) has seven different rates (0, 5, 10, 15, 20, 35, 45 percent) applied to the c.i.f. value of imports.

Import tax (TI). The import tax (Taxe a l'importation, TI) is levied mostly on the c.i.f. value of imports or on physical volumes for selected goods. On January 1, 1988, the tariff reform introduced a tariff structure that simplified tariff structure and as a result, as of January 1,

1988, it reduced the minimum number of brackets from 69 to 16, with a maximum rate of 80 percent and a minimum rate of 5 percent. (For certain products, a temporary surcharge of 30 percent was introduced to ease the transition period). Effective January 1, 1989, the minimum duty was raised to 10 percent, except for some products such as fertilizers, pesticides, and pharmaceutical products. In addition, the temporary surcharge was cut to 10 percent. The ultimate objective of the tariff reform is to put into place a simplified tariff structure with rates ranging from 10 percent to 50 percent.

Other taxes on imports. The TUT and eventually the TC also affect imports as well as domestic production. The TC is applied to the c.i.f. value of imports, while the rate of the TUT is fixed at 15 percent and is applied to the c.i.f. value of imports inclusive of the DD, the TI, and the TC. A stamp duty (*droit de timbre douanier*) of 1 percent is levied on the perceived taxes (DD, TI, and the TC).

Export taxes. In order to encourage exports and reduce reliance on export duties and taxes, the government eliminated export taxes on all goods in 1987, except for vanilla, coffee, and cloves. In 1988, the export duty on cloves was set at the specific rate of FMG 110/kg, and the one on coffee was set at the specific rate of FMG 19/kg. In addition to the export duty, an export surcharge is levied on coffee, cloves, and vanilla. It consists of a rate of 10 percent for coffee, US\$11 per kg for vanilla, and 15 percent for cloves.

d. A Comparison with Other Countries

The above description makes it clear that Madagascar has a very complex tax structure. This is not uncommon among developing countries which have been heavily influenced by their colonial legacy. The emphasis on progressive income taxes, a cascaded structure of indirect taxes, a schedular system for direct taxes, and a proliferation of exemptions encourage too many arbitrage actions that erode the tax base. Also, the resulting system would appear to be far too complex for the country's administrative capabilities as the recent simplifications in the tax system suggest. In his recent review of tax reforms in several developing countries, Thirsk (1990) has noted a general across-the-board move towards a streamlining of tax rates, including abolition of exemptions so as to bring transparency to the tax system and remove the opportunities for arbitraging across tax rates and tax categories.

Table 3 shows a comparison of Madagascar's structure of tax revenues with that of other low-income countries. Two observations are noteworthy from this table. First, even among low-income countries, Madagascar's tax revenues (as a share of GDP) are a third lower than in other developing countries. It should also be clear from the description of the tax structure of Madagascar that this certainly cannot be due to low tax rates. Rather it must be a combination of tax exemptions and tax evasion. Second, is the unusually high share of trade taxes in total revenues. The relatively high share of trade taxes in total tax revenue reflects a combination of

factors: first, is a weak administrative capability that must have reflected itself more strongly in the application of tax rates and exemptions for domestic taxes; and second, There is an important share of coffee, vanilla, and cloves (two-thirds of agricultural exports). For vanilla and cloves, Madagascar is likely to have monopoly power in world market. Hence there is an argument for taxation on both revenue and welfare grounds. Apart from export tax revenues, Madagascar's source of budgetary revenues is fairly similar to that of other low income countries.

The Table 3b provides the detailed figures of budgetary revenues for Madagascar for 1988. It reveals another characteristic of Madagascar's tax structure: a distortion of tax structure across markets and activities. In particular, trade taxes discriminate across markets, and profits and wage taxes discriminate against investment and employment.

Two conclusions from this brief look at the Malagasy fiscal system are in order: a complex tax structure that yields relatively low revenues, and hence a suggestion of tax evasion; and a distorted tax structure that discriminates against trade and agricultural activities.

Table 3
Tax Revenues

(3a) A Comparison with Other Low Income Countries
(1986-88 average)

	Tax Revenue(TR)/GDP	Income Tax/TR	Domestic Tax/TR	International Tax/TR
Low income countries ^a	16.3	22.4	27.3	30.9
Madagascar	11.8	14.3	28.3 ^b	55.6

(3b) Madagascar: Budgetary Revenue(1988)^c

Foreign Trade	Budgetary Tax on Goods	Income & Profits	Other
200.5	96.8 ^d	51.4 ^e	11.8

- a. Low income countries: sample of 36 countries with 1980 income per capita below \$500. Average values for 1986-88. Source: Faini and de Melo (1991) table 2.
- b. Includes taxes on goods and services and tax on property.
- c. Billion FMG. Source: Guillaumont et al. (1990) de Melo and authors' calculations.
- d. Includes monopoly profits tax (24.8 billion).
- e. Includes profits (22.7 billion) and wage tax (14.4 billion)

III. Perspectives on Taxpayer Compliance

Tax laws serve as the essential ligaments of nations and without the compliance of citizenry to these laws, governments are shams. It is this fact -- that taxes are utmost essential to the existence of all successful states -- that makes the age-old question of why people pay or fail to pay their taxes as of fundamental interest. This question becomes all the more pivotal in a search for mechanisms to ensure greater compliance.

Theoretical and empirical research on why people comply or fail to comply to taxpaying requirements has been pursued by social scientists from a variety of disciplines. However, most research on the pattern of taxpayer compliance has focussed on explanations in terms of self-interest and the inhibiting effects of three factors: fear of legal (i.e., formal) sanctions, fear of social (i.e., informal) sanctions, and moral commitment to legal behavior.

III.1. Theoretical Studies

The research in the relationship between self-interest and compliance with the tax laws has been primary focus of the microeconomic theoretical models of taxpayer compliance. These models have evolved directly from Becker's (1987) pioneering model of criminal choice. While Becker mentioned tax evasion as a possible area of application for his model -- it were Allingham and Sandmo (1972) who pioneered such an application. Their analytic paradigm -- views income tax evasion as portfolio decision-making based on the von Neumann-Morgestern expected utility model. In this framework, a representative rational taxpayer regards hidden income as a risky asset -- which is contingent on whether the misbehavior will be detected -- and maximizes his expected utility. Key variables include: pre-tax income, the marginal tax rate, the detection probability, penalties, the degree of risk aversion, and the extent of honesty. With these factors, they derive interior maxima and examine comparative statics or welfare impacts of tax enforcement. Some variants of this analysis are those of Srinivasan (1973), Kolm (1973), Singh (1973), Yitzhaki (1974, 1987), McCaleb (1976), Nayak (1978), Pencavel (1979), Gottlieb (1979), Christiansen (1980), Cross and Shaw (1982), Koskela (1983a, 1983b), Cowell and Gordon (1988), Toma (1989), Falkinger (1990), Landskroner et. al.(1990), and Chu (1990a, 1990b).

Some (e.g., Srinivasan, 1973) assume risk neutrality and work with maximization of expected income in lieu of maximization of expected utility. A major extension of the framework was introduced by Wiess (1976) who incorporated a flexible labor supply into the model. Isachsen and Strom (1980), Sandmo (1981), Isachsen et. al.(1985), Cowell (1985, 1990a), Slemrod and Yitzhaki (1987), and Yamada (1990) belong to this category. All these models are frequently characterized as random-audit models, since all taxpayers are assumed to face the same audit rate regardless of the nature of their tax return or compliance status.

Many of the hypothesis generated by the random-audit models are found to be consistent with the notion that compliance is encouraged with the increase in the risk of non-compliance. Most of these models have predicted that increasing the audit rate would lead to increase in the reported income. Isachen and Storm(1980) introduced the notion of the two-sector economy -- a legitimate sector with a high audit rate, and a hidden economy with a low audit rate. Their analysis showed that if the two rates differed enough, a further increase in the audit rate in the legitimate sector could induce many workers to move to the hidden economy and therefore the aggregate reported income might actually fall. Wadhawan (1992) models optimal tax policy in the face of residual tax evasion. The majority of random-audit models provide no basis for presuming that compliance can be increased by decreasing tax rates.

The standard portfolio paradigm was refined by Hoeflich (1983) who regarded tax compliance as a game played by the tax authority and taxpayers. This approach notices the possibility that a taxpayer's report may convey some information regarding his true income to the tax agency. Greenberg (1984), Reinganum and Wilde (1985, 1986b, 1988), Graetz et. al.(1986), O'Keeffe (1986), Scotchmer (1987), Melumad and Mookherjee (1989), and Cremer et. al.(1990) also pursue this strand of modeling. From a different perspective, Virmani (1983, 1987) examines the game between taxpayers and the venal tax officials. All these models explore the strategic response of one party to another's behavior and shed light on the design of the optimal audit or penalty scheme. Graetz et. al.(1989) extend the game model by embracing another player -- tax practitioners -- noting that professional tax preparers account for over half of individual income tax returns filed in the U.S. Other studies in the same vein that followed are those of Klepper and Nagin (1989), Scotchmer (1989), Reinganum and Wilde (1991), and Klepper and Nagin (1991).

Researchers have also used game-theoretic approaches to model interactive audit strategies. The idea is to take account of the fact that the revenue authority selects many returns for audit using an interactive strategy -- selection is based on characteristics of the return that are associated with substantial income underreporting . The two game-theoretic approaches used in the modeling are: the principal-agent model and the Nash equilibrium model. Reinganum and Wilde (1985b) used the principal-agent model and showed that an audit-cut off strategy raises revenue for the tax authorities, if the taxpayers are risk neutral. The Nash equilibrium approach was used by Graetz et al.(1986). Under certain assumptions, their analysis predicted that with increases in the penalty rate, the differential between the low and high income, and the tax rate will all increase tax compliance. Lansberger and Meiligson (1982) and Greenberg (1984) multi-period dynamic model, show that at least under certain conditions, maximizing tax revenue over a taxpayer's lifetime would require changing the audit probability from year to year.

Klepper and Nagin (1987a) used a disaggregated model by characterizing return items in terms that are related to the probability of audit and severity of penalties. In this framework their analysis predicts how those characteristics affect compliance. Models with further refinements (Klepper and Nagin, 1987b; and Mazur and Nagin, 1987) focus on disaggregation of taxable income together with incorporation of tax practitioners to address institutional complexities.

Others analyze dynamic aspects of tax compliance. Most of them focus on tax amnesties. Notable among these are the studies of Lerman(1986), Leonerd and Zeckhauser(1987), Andreoni(1991), Malik and Schwab(1991), and Stella(1991). Some view tax evasion as a substitute for loan (Andreoni, 1989b). Still others study the effect of the interest rate on tax evasion (Crane and Nourzad, 1985).

Cognitive scientists have focused on the perception about fiscal equity as a key factor of tax evasion. The noteworthy studies in this stream of research are those of Scott and Grasmick(1981), Grasmick and Scott(1982), Thurman et. al.(1989), and Dickens(1986). They attribute tax evasion to a “norm neutralization” process in the “reference group theory”. That is, tax evaders tend to justify their cheating by the belief that everybody else does the same thing or that they get less benefits from the government than their share of tax burden. Grasmick and Green(1980) have argued that a crucial explanatory variable in the theories that relate social sanctions to compliance is whether an individual’s friends or acquaintances have engaged in tax non-compliance. There, however, remain some questions about the interaction between the social and legal sanctions. As Yankelovich et. al.(1984) argue that non-compliance with tax laws may be unlikely to be socially condemned because it produces no identifiable victim, and because sizable fractions of the population believe the tax laws are unfair anyway.

III. 2. Empirical Studies

Empirical works on tax compliance are still uncommon due to the lack of hard data. The revenue authorities generally keep their audit rules secret protecting the privacy of taxpayers further limits the data availability. The data-deficiency has induced creative methods which can be categorized into three approaches: Surveys, experiments, and examination of official micro-data.

Surveys are used to investigate taxpayer consciousness and attitudes about the fiscal system or labor force participation in the underground economy. Such information would be hard to obtain otherwise. Among the studies that focus on attitudes are: Vogel (1974), Spicer and Lundstedt (1976), Song and Yarbrough (1978), Mason and Calvin (1984), Yankelovich et. al.(1984), ICF (1985), Westat, Inc.(1980f), and etc.

These survey studies on attitudes have attempted to formalize such vague notions as taxpayers perception of the structure of taxation, their views as to its purpose, their views on the opportunities of avoidance, and the seriousness of the crime of evasion. The findings of this investigation seem to confirm that factors such as youth, greater perceived opportunities for evasion, negative attitudes’ -- especially the inequality of the tax system, and the evasion and circumvention of tax net by the rich and the influential, do predispose individuals towards evasion. However, the evidence on the effect of tax rate and the personal income as the

predisposing factor is ambiguous.

The other genre of studies represented by those of Isachen et. al.(1985), Samuelson and Storm (1985), Pestieau (1985), and Lemieux et. al.(1990 use interview data for estimation of models of evasion with an endogenous labor supply. The dependent variables are labor in the black economy, labor in the legitimate economy, and tax under-reported. The findings confirm the conventional effects of tax and tax-enforcement parameters on evasion activity. Other findings are: black labor market activity is greater among craftsmen; those in mid life cycle; those with non-working spouses; expected hours of work in the black economy appear to decrease with income; and women are less likely to be involved than men.

On the other hand, experiments are attempted to learn the heuristics of rules of thumb which taxpayers use in making evasion decisions. Tax paying situations are simulated to test how sensitive tax compliance is to various factors. For more control over key variables, experiments are usually conducted under somewhat restrictive settings. Some of the well-known experiments based studies are those of : Friedland et al.(1978), Schwartz and Orleans (1967), Spicer and Becker (1990), Spicer and Hero (1985), Benjamin and Maital (1985), Baldry (1986, 1987), Alm, McKee, Beck (1990), and Byun (1990). Among the major findings of these studies are: i) large fines may be more effective than a high probability of audit; ii) appeals to conscience and civic responsibility may be much more effective than legal sanctions; iii) evasion was much higher for those who perceive substantial inequities in the tax system; iv) higher tax rates led to more evasion; v) women evaded more than men; vi) increasing the subjective probability of audit may reduce the probability that a person evades but may not have a significant impact on the actual amount of tax paid.

The last approach -- the analysis of official micro-data -- examines FIES data, tax amnesty files, or tax returns. There are three variants of this approach. O'Higgins (1981), initiated this method. Dilnot and Morris (1982), Cooter (1984), Smith et al.(1986) and and O'Higgins further improved it. The first group adopts a two-stage procedure. They identify the suspicious group -- usually the self-employed -- that are likely to be associated with tax evasion. Then the expenditure level (relative to income) of this group is compared with that of other groups to infer hidden income.

The second group uses amnesty return files of the states which previously conducted tax amnesties. For instance, refer to Fisher et. al.(1989) and Dubin et. al.(1990b, 1990c). According to Stella (1991), 28 states in the US have offered tax amnesties since 1982. Australia, Belgium, France, Ireland, and Italy offered amnesties in the last decade, while Argentina, Bolivia, Colombia, Chile, Ecuador, Mexico, India, Panama, Peru, and the Philippines have all had tax moratoria or amnesties more than once in the recent past.

The last group mostly uses cross-sectional TCMP (Taxpayer Compliance Measurement Program) data provided by the revenues authorities (IRS in the US) to test compliance factors -- the marginal tax rate, income, audit activities, the proportion of withheld income to gross

income, the penalty rate, and demographic factors. For instance, by Clotfelter (1983), White and Woodbury (1985), Dubin et. al.(1987, 1989, 1990a), Dublin and White (1988), Beron et. al.(1988), Ereksion and Sullivan (1988), Klepper and Nagin (1989), and Erard and Feinstein (1990) have all followed this line of research investigation. The exceptions seem Slemrod (1985) who studied 1977 tax return files and Alm et. al.(1990, 1991) who examined the Jamaican income tax return files. As a measure of compliance most use audit findings of the TCMP, i.e., detected evasion.

Some noteworthy findings, in addition to those discussed above, from the existing literature that have relevance to the context of the proposed EAGER research activity are the following:

- I) studies using very different methodologies support the hypothesis that the higher detection probabilities associated with greater income visibility encourage more complete reporting of income (Feffer et al.,1983; Kagan, 1989; Klepper and Nagin, 1989; Clotfelter, 1983; Witte and Woodbury, 1983; Dubin and Wilde, 1988; Beron et al., 1988, Alexander and Feinstein, 1986);
- ii) taxpayers with non-compliant friends, relatives, or acquaintances are more likely to report non-compliance (Spicer, 1974; Vogel, 1974; and Westat, Inc., 1980f);
- iii) different econometric analyses reach different conclusions about the income -- compliance relationship (Wilde and Woodbury, 1984; Clotfelter, 1983; Alexander and Feinstein, 1986; Dubin and Wilde, 1988; Mason and Lowry, 1981);
- iv) high compliance costs -- such as cost in time, effort, and psychic energy required for any given level of compliance act as barrier to compliance (Slemrod, 1989 and Ekstrand, 1980);
- v) significant differences in compliance levels have been found to relate to enforcement methods differing in fairness (Friedland et al.,(1973), and different redistribution of tax revenues (Thibauk et al., 1974);
- vi) significant differences in compliance levels have also been found relative to different perceived inequities in tax rates (Spicer and Becker, 1980);
- vii) given the prevalence of arguments and/or strategies that provide for guilt neutralization, and even respondents who believe that cheating is wrong, may cheat without feeling guilty. For example, respondents who agree with the statement, "It is okay to claim an undeserved deduction when you are not sure what the rule is" can use the denial of responsibility strategy to reduce guilt they otherwise would feel (Thurman et al., 1984);
- viii) there may not be higher level of commitment to compliance with tax laws from taxpayers with favorable attitude towards the government and the laws in general (Lewis, 1982a and Seers and Citrin, 1982);
- ix) attitudes about tax law and compliance and administration, particularly attitudes related to perceived equity of tax system, have been found to be more closely related to commitment and tax compliance than are more general attitudes toward law and government (Ajzen and Fishbein, 1980; Scott and Grasmick, 1981; Spicer and Becker, 1980, and Yankelovich et al., 1984);

- x) ambiguity of the tax law and its impact on perceived equity is more closely related to taxpayer commitment than complexity (Westat, Inc., 1980e);
- xi) attitudes towards tax administration are likely to be more closely linked to compliance than general attitudes towards government (McEwen and Maiman, 1984 and Tyler, 1986);
- xii) the extent of the commitment of a citizen to obey tax laws is contingent on the ability of the state to ensure through enforcement that others will comply as well (Yankelovich et al.,1984);
- xiii) the adequacy of enforcement toward one's social peers appears to be less of a concern to taxpayers than enforcement toward wealthier entities or bluntly criminal action (Yankelovich et al.,1984);
- xiv) people care more about penalizing flagrant violators than petty cheaters (ICF, Inc., 1985);
- xv) the general law-abidingness of high-status individuals makes those who disobey (for instance tax laws) less likely to be subject to harsh treatment (Grasmick et al.,1983); and
- xvi) high-status taxpayers have greater access to low-risk opportunities, more ability to learn how to conceal their evasion, and less likelihood of being punished than the low-status individuals (Klepper and Nagin, 1989).

IV. The Nature and Extent of Tax Evasion.

IV.1. Estimation Approach

As argued in the previous section, tax non-compliance is a major problem nibbling at the revenue productivity of the tax system. The resulting tax evasion, or the underground economy as it is called, is a very complex phenomenon involving different but interrelated aspects. It is indeed not possible to measure its size directly, but the traces it leaves in other spheres of the economy can be analyzed and to some extent measured. Since the hidden economy can leave many traces, many different approaches or methods have been advocated by researchers to capture the size of this sector. However, empirical works are handicapped due to a lack of hard data. Broadly speaking there exist three main approaches: discrepancy methods, currency demand or monetary approach, and transactions models approach.

The idea of the discrepancy method is to use national account discrepancies between the income side and the expenditure side to estimate the unrecorded sector. Park (1979) is credited with this method and Macafee (1980), and Frey (1982) applied his proposal. A variation of this method is to estimate the Adjusted Gross Income (AGI) gap between the national income and product account (NIPA) and the revenue authority account after adjusting for the conceptual discrepancies between the two. The fact is that direct comparison of the two AGI's would not yield correct results. On the one hand, some reported incomes are excluded from NIPA: personal

contributions for social insurance, net capital gains from sales of property, and taxable private pensions. On the other hand, the revenue authority also omits some personal income: imputed income, some transfer payments, and other tax exempt income. Crane and Nourzad (1985,1986), and Bahk (1990) use the AGI gap as a rough measure of unreported income to estimate the effects of economic variables (e.g., tax rate) on tax compliance. Similarly, Bird (1986) and Pestieau (1987) use the aggregate VRP found by the TCMP.

The currency demand method traces back to Cagan (1958) who conjectured that currency has a comparative advantage over checks for the payments of purchases that taxpayers wish to conceal from the tax agency. Twenty years later this approach was refined and applied by Gutmann (1977) and Feige (1979). Tanzi (1983) added tax variables to the compliance factors in order to complement the estimation and his method was relatively popular in the 1980's.

The monetary approach is based on the fact that to avoid government detection, all underground economic activities rely on currency for transactions rather than checks or credit cards. Relative changes in currency holdings are therefore construed as reflecting volume movements in the underground economy activities. Three variants of this approach that have been used in literature are: 1). The currency-equation variant; 2). The currency-denomination variant; and 3). The fixed-ratio variant. The currency-denomination variant is based on the premise that the underground activities are characterized by the use of large bills of certain denomination. The estimate of the underground economy is based on the change in the number of such bills of certain denominations. This premise suffers from a serious drawback in that the composition of currency holdings is likely to change over the years due to the fluctuations in real growth and inflation. Besides, the increase in the number in circulation could also be due to increases in foreign holdings rather than in underground economic activities.

The fixed-ratio variant assumes that there is a monetary ratio (such as ratio of currency to demand deposits) that, without the underground economy, would have remained constant over time, and that there was a golden period in the past when no underground economy existed. Various authors measure this monetary ratio differently. Gutmann (1977) measures it as C/D , while Feige (1979) uses MV/GNP for it, where C is the currency in circulation, D is the demand deposits, M is the money supply, V is transactions (not income) velocity of gross national product. The major difference between their methods is that while Feige's method is direct (the change in MV/GNP allows a direct estimation of the underground economy), Gutmann first calculates the excessive currency in circulation resulting from the existence of the underground economy. Feige (1979) used mid 1960's as the golden period, while Gutmann took late 1930's as the period when the underground economy was zero. The fixed ratio approach is criticized, inter alia, on the ground that there is no reason why the monetary ratio should remain constant over long periods.

In the recent past some attempts have been made to estimate the size of the underground economy in Tanzania. Maliyamkono and Bagachwa (1990) using Gutmann's method and estimated that the size of the underground economy was 31.4 percent of the officially estimated

GNP in 1986. Also, their estimates showed that economy grew at an annual rate of 30.1 percent as compared to the 19.4 percent annual growth in the official GNP statistics. They concluded that the black economy picked up rather rapidly during the periods of economic slowdown in the 1970's (Maliyamkono and Bagachwa, 1990, p.45).

The currency-equation variant considers the underground activities as the direct consequence of high taxes and that currency is used to carry out such transactions. The equation is estimated and two estimates of the demand currency holdings are made -- one when the tax variable is zero and the other when it is not. This approach was used by Tanzi (1983) to estimate the underground economy in the United States for the 1930-1980 period. From these estimates he computed the extent of the tax evasion. Acharya (1984), Feige (1986), Thomas (1986), and Zilberfarb (1986) have all criticized Tanzi's analysis both on methodological issues and empirical grounds, although Tanzi persuasively discredited virtually all these criticism as unfounded. Tanzi does consider Zilberfarb's comment relating to the application of an upper-bound limit to Tanzi's estimates as well merited. Zilberfarb re-estimated Tanzi's result by using the marginal tax rate and not the average tax rate as Tanzi did.

Bhattacharya (1990) improved the method significantly by using the auto-regressive structure and the quarterly data for the UK for the period 1960-1984. His major departure from the approach of Tanzi (1983) and Klovland (1984) was dropping tax variables to estimate the "hidden economy". While Bhattacharya's method does remain superior to that of Tanzi (1983) his method tends towards impracticality because it is contingent on the use of time series estimations requiring at least 50 observations. This constraint precludes the use of this method to LDCs like Tanzania for which long time series data is not available.

Bagachwa (1995) has applied a modified version of the monetary approach to estimate Tanzania's underground economy. In his analysis he considers the underground economy to consist of three categories: informal sector, parallel and, black market activities. The informal sector refers to the unregistered small-scale units and self-employed persons producing and distributing goods. Parallel market activities refer to illegal production and trade of goods and services that are legal in themselves. But the black market activities relate to the production and distribution of goods and services that are forbidden by the government statutes. Bagachwa uses the modified version of the demand for currency equation on the lines of Tanzi (1982, 1983) and others (Isachsen, Klovland and Storm, 1982, May, 1985). The particular advantage of this method is that captures explanatory factors other than the changes in the second economy transactions which can explain the behavior of currency hoardings. While this approach still assumes that the second economy transactions are undertaken mainly through cash payments, it is flexible in the sense that it does not assume that the currency-demand deposit ratio remains constant. While the technique and the analysis of Bagachwa is imaginative and useful, it does not distinguish the small-scale informal sector from which one may never collect taxes directly, from the underground formal sector that keeps books but evades its liability with the help of double or triple bookkeeping.

Finally, the transactions-model method is a major modification of the currency demand method. Feige (1979) proposed to estimate total unrecorded monetary income using Fisher's "equation of exchange". Many applications of this method to the European countries are found in Feige (1989). The most comprehensive and advanced technique among macroeconomic approaches is used by Aigner et al. (1988). They measure the hidden US economy with a dynamic multiple indicators, multiple-causes (DYNAMIC) model. As explanatory variables they consider: indicators of the burden of taxation, the burden of regulation, tax morality, monetary transactions, labor market participation, and the growth of the production market.

IV.2. Tax Evasion in Tanzania

Some recent studies have estimated the extent of tax evasion in Tanzania. One of these is by Osoro(1995) who finds that the underground economy grows from Tshs 2.7 billion in 1978 to about 124 Tshs billion in 1990 (see table 4). As a proportion of the GDP, the underground economy averaged 14 percent of the GDP over the period 1967-90; and being about 25 percent of the GDP in 1990, and 9.5 and 9.0 percents respectively in 1978 and 1967. The table 4 also shows the magnitude of tax evasion over the same period. The estimated figure for tax evasion Yearly estimates are also provided by Bagachwa(1995) in his study on the second economy of Tanzania (table 5). The annual figures for the second-economy real GDP show a relatively large size which rose from a modest level of 5-7 percent of official nominal GDP in 1970 to 30-33 percent in 1989. In the intervening period the estimates fluctuated between 13-28 percent levels. The results do not reflect any systematic relationship between real changes in the official and the second economies. However, a notable feature reflected in table 4 is that the share of second economy in the total economy (official plus second) has, except for a few minor fluctuations, stayed constant throughout the last two decades.

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Table 4
Tanzania: Underground economy, and tax evasion, 1967-1990

Year	Nominal GDP	Underground economy	Tax evasion	Average tax rate	Underground economy as % of GDP
1967	67.35.00	665.67	17.79	2.67	9.88
1968	7182.00	417.01	58.03	13.92	5.81
1969	7460.00	256.47	40.54	15.81	3.44
1970	8215.00	1252.59	208.01	16.61	15.25
1971	8857.00	1342.89	296.72	22.10	15.16
1972	10032.00	2482.63	476.83	19.21	24.75
1973	11490.00	1030.16	233.86	22.70	8.97
1974	14010.00	1455.67	350.48	24.08	10.39
1975	16988.00	884.10	178.04	20.14	5.20
1976	21652.00	554.13	121.50	21.93	2.26
1977	25698.00	0.00	0.00	21.25	0.00
1978	28582.00	2702.98	560.31	20.73	9.46
1979	32317.00	834.62	176.01	210.9	2.58
1980	37454.00	1249.15	271.44	21.73	3.34
1981	43906.00	4367.86	917.15	21.00	9.95
1982	52546.00	5884.12	1248.32	21.22	11.20
1983	62608.00	2668.03	581.91	21.81	4.26
1984	78143.00	21860.14	4854.17	22.21	27.97
1985	108083.00	28393.34	5263.45	18.54	26.27
1986	140866.00	39916.59	8368.33	20.96	28.34
1987	200377.00	62109.43	13347.25	21.49	31.00
1988	285152.00	598111.34	14588.81	24.36	20.98
1989	335505.00	84165.81	21029.07	24.99	25.09
1990	401583.00	124656.28	36708.42	29.45	31.04

Source: Osoro(1995)

IV.3. Tax Evasion in Madagascar

Like Tanzania, an underground economy of substantial size pervades Madagascar. Like many other poor countries with underdeveloped administrative capacities, Madagascar experiences substantial smuggling. The motives for smuggling are several, ranging from the desire to survive in the face of a host of barriers created by government policies and the lack of infrastructures, to tax evasion. Because of the exceedingly complex tax structure and the very weak tax administration, smuggling to avoid taxes is pervasive in Madagascar, notwithstanding the proliferation of tax exemptions. As a result a substantial loss in the tax revenue takes place.

Like many countries, Malagasy authorities, out of concern for tax evasion, had engaged the services of Preshipment Inspection (PSI) firms to verify not only that the quality and quantity of goods shipped meets contractual standards but also the prices charged are within "reasonable" limits. Yeats (1990) who recently evaluated Madagascar's use of PSI has come to the conclusion that, by and large, it has not been successful in eliminating or even reducing capital flight or avoidance of customs duty. His conclusions that tax avoidance remains a lively issue is based on an analysis of Madagascar's relative import prices before and after PSI requirements were adopted.

Melo J. De et. al.(1992) worked out general equilibrium estimates for potential losses through exemptions and tax evasion of various forms (smuggling, bribery, etc.). Their model formulation is based on ten sector sectoral aggregation and tax revenues by tax instrument. The authors consider the ten sector disaggregation as the minimum to capture the incidence of the main tax instruments used in Madagascar. The calibrated "base" solution replicates the actual disaggregated flows in the Malagasy economy for the year 1988.

Agriculture is by far the largest sector in the Malagasy economy. Three quarters of exports originate in this sector. Industry provides about half of the total government revenue from tax collections, and a quarter comes from agriculture because of the export tax on vanilla, cloves, and coffee. The sources of tariff revenue by sector and by instrument are further disaggregated in Table 6. Shown side by side in this table are the formal and effective (in parenthesis) tax rates. The effective tax rates are those that were derived from the national income and fiscal data and yielded the observed tax revenues. These tax rates are used in the base calibrated simulation. Except for export taxes which are calculated from the tax revenues on exports of cloves, coffee, and vanilla, all other schedular tax rates are drawn from the Malagasy tax system as described before. Import taxes are calculated from the published customs and fiscal duties, using imports as weights in aggregating to the sectoral classification in the model. To account for exemptions, the authors applied the value-added tax to all sectors except non-market activities and the livestock component of agriculture. Because of high

Table 5
Real growth in official and second economies in Tanzania, 1968-1990

Year	Sec. Econ. as % of		% yearly change of		
	(1) Off. Real GDP	(2) Total real GDP*	(1) Off. Real GDP	(2) Sec. Econ Real GDP	(3) Total real GDP
1968	6.77	5.03			
1969	5.29	5.03	1.84	-20.40	0.43
1970	12.76	11.32	5.79	155.05	13.30
1971	12.53	11.14	4.19	2.34	3.98
1972	17.61	14.97	6.72	49.94	11.54
1973	17.57	14.94	3.04	2.81	3.01
1974	21.00	17.35	2.51	22.51	5.50
1975	17.83	15.13	5.91	-10.10	3.13
1976	15.52	13.44	11.57	-2.85	9.39
1977	12.39	11.02	0.40	-19.87	-2.32
1978	24.05	19.39	1.21	96.51	11.71
1979	26.36	20.86	3.43	13.37	5.35
1980	23.96	19.33	2.92	-6.46	0.96
1981	26.88	21.19	-0.50	11.63	1.84
1982	26.37	20.87	0.59	-1.31	0.19
1983	24.26	19.52	2.36	-10.19	-3.99
1984	30.70	23.49	3.36	30.82	8.72
1985	25.37	20.24	2.63	-15.18	-1.55
1986	21.23	17.52	3.26	13.58	-0.15
1987	27.77	21.73	5.09	37.41	10.75
1988	26.02	20.65	4.23	-2.34	2.80
1989	30.16	23.17	3.34	19.82	6.74
1990	33.24	24.95	3.49	14.05	5.94

Source: Bagachwa(1995)

* Official real GDP plus second economic real GDP

Table 6
Formal (schedular) and Effective Tax Structure in the Malagasy Model(1988)
(Effective tax rates in parenthesis)

	Value added	Taxes imports	Taxes exports	VAT(TUT)	Excise tax (TC)
Agriculture(39)	1230	53.3 (40.3)	15.0	10.2 (1.6)	-
Energy (2)	60	30.3 (7.3)	-	15.0 (0.8)	-
Processed food (7)	220	62.0 (5.7)	-	15.0 (1.3)	30.0 (3.7)
Light industry (3)	104	55.3 (37.6)	-	15.0 (0.9)	30.0 (3.3)
Heavy industry	274	55.3 (44.8)	-	15.0 (0.4)	-
Other manuf. (1)	34	46.0 (44.8)	-	15.0 (0.9)	-
Transport (5)	143	-	-	15.0 (1.3)	-
Commerce (11)	357	-	-	15.0 (1.2)	-
Services (23)	730	-	-	15.0 (1.2)	-
Non-market (6)	194	-	-	-	-
Actual tax Collection		156.7	43.8	40.3	-

Source: Melo J. De et. al.(1992)

variance across commodities (10 percent to 140 percent), they assumed that the excise tax on consumption applies only to consumer goods. The authors' estimate of 30 percent is a guess of the average rate that is intended by the fiscal system. The actual revenues collected by the government in 1988 amounted to 360 billion FMG (see table 2). Of this amount, 331 billion FMG are captured by the tax instruments incorporated in the model.

Focusing only on the tax revenue for a subset of sectors with positive effective tax rates, the authors compute the tax evasion by asking the question: how much would the government have collected had the schedular rates, reported in Table 6, actually been imposed. To answer this question, the model is solved with the schedular rates, given in table 6, in lieu of the corresponding effective ones, and the results are compared with the base solution obtained with the effective tax rates. Note that due to lack of information, there are no built-in differences between effective and schedular rates for export taxes. Hence, in the calculations reported below, revenue gains result from import duty, VAT, and consumption tax collection.

The estimated revenue loss due to the combination of tax evasion, weak administrative collection, and exemptions (not incorporated in the formal tax structure described in table 6) is

shown in table 7. It is found that the revenue loss is very large, ranging from 48 percent for import duties to 763 percent for the VAT. Also, as expected, loss is much greater for the VAT and consumption taxes, as it is ten to twenty times larger in percentage terms than for import taxes. This very large difference is certainly partly due to a greater number of exemptions than those accounted for directly, for taxes on domestic sales provided to public and other enterprises. But the overriding factor accounting for this difference is still likely to be the relatively greater difficulty in collecting taxes on domestic sales in a country with a large rural population and a weak administrative system.

Table 7
Increase in Revenue from Applying Formal Tax Rates*
 (percentage increase in parenthesis)

Tax instrument	Import duty	VAT (TUT)	Excise Tax (TC)
Revenue (billion FMG)	81 (52 percent)	308 (763 percent)	139 (486 percent)

Source: Melo J. de et. al. (1992)

a. Revenues obtained by solving the model with the schedular tax rates shown in table 5

As is clear the estimates in table 7 suggest a very large revenue loss from the combination of exemptions, tax evasion, and smuggling. When the schedular rates are applied, the combined revenues from import duties, VAT, and consumption tax would increase (percentage of base GDP in parenthesis) from billion FMG 225 (6.4 percent) to 528 (15.1 percent). Such revenue increases would be unattainable and exemptions are primary reason for the shortfall in revenues.

V. Facets of Transparency

Improvement in the revenue performance of a country crucially depend on the functional efficiency of its tax administration. As Tanzi (1987) has pointed out, tax administration plays a crucial role in determining the real (or effective) tax system as opposed to the statutory tax system. Indeed, there is a growing realization that tax administration is the backbone of all tax efforts and in a real sense, "tax administration is tax policy" in developing countries (Casanegra de Jantscher, 1990, p.179). Differences in the strength and effectiveness of tax administration of different countries could be attributed to a variety of factors. However, the degree of transparency is an important one of these. The sub-Saharan African countries are, it seems, at the farthest end on any scale of transparency -- especially as applied to tax administration. Their functional system and the operational design are non-transparent in relation to that of developed countries and other developing countries.

Lack of transparency provides the breeding ground for tax evasion. This compounded further as tax evasion is significantly affected by the interdependence of taxpayers and tax

officials, within each group and between groups. A taxpayer and a tax official often collude tacitly for mutual gains. Further, many tax evaders (e.g., small business) just follow the practices of their peers. If tax evasion is pervasive, why should they conform to the legal rule? Analogously, many tax officials engage in tax corruption under pressure within the venal bureaucracy. In this sense, both are trapped in “social dilemmas” and thus driven to be dishonest. As a result, tax evasion is highly endogenous to tax environments, and the degree of evasion varies not only among individual taxpayers but also across regions, economic sectors, classes, and time horizons. These interactive aspects are crucial to tax evasion, especially in LDCs and more so in sub-Saharan african countries where tax corruption is widespread.

The opacity of the tax administration in conjunction with official corruption and political meddling in sub-Saharan Africa tells upon the performance of their tax systems in a serious way. Perhaps the most undesirable consequence is that it serves to ignore/cover up or act as veil the tax evasion by the oligarchs which results in a revenue loss to the state of a very substantial magnitude. The fact is that on the average 60 to 70 percent of the tax collections of the developing countries come from the large taxpayers that constitute the top 1 percent of the taxpayers, that is, a few hundred or at the most a few thousand units, with the number depending largely upon the size of the country (Casanegra de Jantscher and Silvani, 1990). Obviously, the revenue loss is considerable even if a fraction of these large taxpayers manage to stay out of the tax net. For instance, Argentina and Mexico, successfully mounted anti-evasion policies based on targeted and highly visible prosecution of public figures. These programs, although not affecting the actual cost-benefit calculus of the typical taxpayer, have resulted in greatly improving the tax share of GDP. For instance, in Argentina, the share increased from 16.6 percent in 1990 to an estimated 22.5 percent in 1992 (Ministry of Economics). In Mexico, the increased compliance sufficed to more than offset a drastic reduction in tax rates (Wolf, 1993). The corresponding figure for Colombia and Bolivia was in the approximate range of 25-30 percent for the year 1990 (Ministry of Finance).

Although easily comparable estimates for other countries do not exist, anecdotal evidence suggests that the extent of non-compliance by the rich and the associated loss in revenue to the state is more or less in the same range for many other countries. The prevalence of a similar or even larger extent of evasion by the wealthy and the influential is most likely to be the case in the sub-Saharan African countries including Tanzania and Madagascar.

The findings of recent research relating to tax compliance should be especially valuable in the context of the sub-Saharan African countries. Of particular importance are some fascinating findings about the relationship between tax compliance behavior and citizen’s attitudes towards taxpaying and government in general. For example, Sheffrin and Triest(1992)in an econometric analysis (of the US 1987 taxpayer opinion survey), find that having a negative attitude towards tax system and perceiving other taxpayers, especially the rich and influential, as dishonest both significantly increase the likelihood that the person will evade taxes (additional literature section III). This conclusion is in line with the generally perceived feeling that “ it is the little guy that’s always paying taxes, while the wealthy and influential get away”; and “the rich aren’t

contributing more than two cents, hence I am justified in evading as much as I can". Such feelings are pervasive in LDCs; being more so in sub-Saharan Africa.

The reality is that this strand of tax evasion is a pervasive phenomenon in sub-Saharan Africa and it threatens the fairness and efficiency of the tax system. It threatens the fairness of the tax system because people differ in both their willingness and opportunities to evade taxes. Because of these differences, the tax system becomes capricious in its incidence. A vicious circle results; the capriciousness of the tax burden undermines citizens' confidence in the fiscal authorities and their willingness to voluntarily comply. Tax evasion of this nature and extent also threatens the efficiency of the tax system because it draws resources into activities in which evasion is facilitated and because citizens use real resources to camouflage their evasion.

Transparency of tax administration can help break this vicious circle and strengthen the revenue performance of the sub-Saharan countries. Towards this end, the main facets or instruments of transparency that need to be tapped are the following:

a. Taxpayer Education and Services

This concerns the taxpayer's interface with the tax system as regards his own tax liability. Compliance is naturally inversely correlated with its cost, and African tax systems give too little weight to controlling this cost. The atmosphere is overly adversarial, clear instructions are scarce, and taxpayers are forced to spend long hours in queues in order to submit their returns and get them accepted. The procedure for handling taxpayer appeals is tortuous and opaque.

By contrast, of the total resource cost of collecting taxes in Western developed countries, administrative costs comprise a minor part. A greater, often much greater, part is the cost of the tax professionals and other inputs into tax compliance, such as computer software. For the US individual income tax this cost has been estimated to be as high as \$35 billion annually, or more than five times the administrative cost (Slemrod, 1991).

The compliance cost of taxation depends on the characteristics of the potential taxpaying population. The difficulty of a step in the tax filing process depends on the cognitive skills of those who must complete the step. From this perspective the sub-Saharan African countries are at a great disadvantage. Illiteracy is widespread in sub-Saharan Africa. In the early 1980's, it was estimated that for the area as a whole, illiteracy was at more than 70 percent for adults and at more than 90 percent for some countries. For low income countries throughout the world, the estimate was about 50 percent (World Bank, 1981). Illiterate people cannot be expected to fill out tax returns. It is difficult to communicate their responsibility to obtain help in complying with requirements of taxation. Enrollment in primary and secondary schools, though much higher than it had been two decades ago, is still too low in sub-Saharan Africa. School children are often employed as channels of communication with parents on tax matters.

The quantitative importance of compliance costs serves as a warning that the cost of taxes is not necessarily minimized by transferring the burden from the state tax collection agency to the taxpayers. This is certainly true in sub-Saharan African countries with low literacy rates, where placing the compliance burden on the taxpayer population is probably an inferior strategy to concentrating on the collection agency. Therefore, a careful consideration to build up the system that caters to taxpayers' education and services to enhance transparency and improve compliance capacity will be crucial in designing any plan or program to strengthen the revenue performance of tax system in sub-Saharan African countries.

b. Performance of the Tax Authorities in enhancing compliance.

While it is appropriate and important that the quest for efficiency through transparency and administration be pursued through attention to taxpayer education and services, there is an equally important need to foster enduring institutions and an accompanying culture that make for accountability. It is important that there be an institutional framework for ensuring transparency and accountability of the tax administration. The revenue services cannot be hoped to provide this key institutional aspect of enhancing transparency. A drawback of using the revenue services is that, barring spectacular performance, they will have a disincentive to publicize indicators of their own performance (all the more so insofar as staff negotiate corrupt bargains with taxpayers). One outcome of the EAGER research might be to propose an independent agency with status similar to the office of Auditor and Controller General that exists in all Anglophone countries, but with a mandate to evaluate revenue performance instead of expenditure. The idea here is to establish an office of a "tax ombudsman" whose function is not only to receive and process taxpayer complaints about their own treatment, but more importantly to assess openly the evenness of compliance and enforcement and thus lay a basis for increasing taxpayers' willingness to comply. This office would generate and publicize regularly measures of compliance with respect to different taxes. Much of this analysis would have to be done by economists applying the techniques of their profession to estimate the relevant tax base, the putative liabilities corresponding to that base, thus the percentage of compliance.

By publishing these findings the government would then give taxpayers who are liable to tax a an honest estimate of percentage of compliance with that tax, accompanied by a statement by the tax authorities of the steps they are taking to raise that rate of compliance. To the extent the information was believable, taxpayers would no longer be left in the dark, taking the attitude, "the rich aren't contributing more than two cents, hence I am justified in evading as much as I can". At the same time the tax authorities would be under pressure to improve their performance, both by expending greater effort to cover those liable for the tax, and by reducing the leakage arising from bribery.

An Agency of the nature of a "tax ombudsman" exists in Japan (called National Tax Tribunal) to which a taxpayer can protest an assessment. Appeals from the district director go to

the national tribunal. The national tax tribunal was established in 1970 as a quasi-independent organization of the National Tax Administration; an almost identical institutional arrangement exists in India. This agency is called the All India Tax Tribunal and it is, as in Japan, a quasi-judicial body to settle disputes in connection with tax assessment and enforcement.

This discussion about transparency also raises an equally important matter of the technical competence of the tax administration, which is as important as its insulation from politics in carrying out of its technical functions. Capacity mobilization and building -- the harnessing of the existing capacities and the building of new ones -- and the related issue of incentives and conditions of service remain one of the most intractable areas in the African reform experience.

c. Publicity Given to Exemptions.

Yet another facet of transparency concerns the degree of publicity given to exemptions that are accorded taxpayers either by the executive branch, normally the president and/or finance minister, or by the legislature. In most systems such exemptions are supposed to be announced in the official gazette, but many are done on an *ad hoc* basis and never published, and/or the gazette is subject to delays of several months and few people read it.

In Tanzania serious leakages through discretionary exemptions have resulted in lower effective duty rates. The Minister of Finance has discretionary power to exempt goods and individuals from full or partial payment of duty. The discretionary power covers all exemptions, including exemptions granted on a case by case basis or according to the Minister's assessment and desirability. There are also tax holidays of several kinds. Besides, some exemptions and allowances exist even for the income tax which make the tax system not only low in revenue productivity but also regressive. For instance, estimates based on a sample from one parastatal show that the tax paid by a top cadre with base salary TSh 42,150 is 21 percent; but if fringe benefits were included, the total earning rose to TSh 345,520, resulting in an effective tax payment of 2.6 percent. A middle level employee with a base salary of TSh 32,270 paid a nominal tax of 18.6 percent on the tax base salary, but the tax fell to 2.4 percent on a total of T Sh 241,986, including fringe benefits. The low cadre, on the other hand, paid a nominal rate 16.8 percent on a base salary of T Sh 12,280; but the actual income tax payment was 7.5 percent, based on a total of T Sh 27,760, including fringe benefits.

Again, numerous exemptions proliferate in the system of profits taxes in Madagascar. Besides, differences in tax rates have provided strong incentives for arbitraging across tax categories that have eroded the tax base substantially. To increase the transparency of the tax system, exemptions should be abolished. That will also remove opportunities for arbitraging across tax rates and tax categories. However, an appropriate and adequate institutional arrangement is needed to ensure a systematic abolition of the exemptions without causing long-lasting damage to the productive potential of the economy. In this regard it is important that there is regular public reporting and analysis of *ad hoc* exemptions, especially from import

duties, VAT, and sales and excise taxes. Analysis means keeping a cumulative account of exemptions enjoyed by specified taxpayers, relating the exemptions to other data about activities of those taxpayers, and aggregating the data to relate exemptions to such parameters as exports of products incorporating duty-free inputs. (The idea here is to assess leakage of exempted product into trade).

There is also a need to introduce of a filing requirement for companies enjoying tax holidays, to enable the revenue service to compute (and publicize) the cost of such holiday. This is the first step in preparing a tax expenditure budget. A further step, which tax experts are increasingly urging countries to adopt, is to negotiate a monetary limit on a company's tax exemption, and start assessing tax once that limit has been exhausted.

Here an ombudsman would be responsible for tracking, cumulating and publicizing exemptions, and conducting analyses that shed light on how far the exemptions corresponded to socially valued activities. (For example, how far import duty exemptions correspond to use of the commodities by NGOs to reexport in the form of processed goods).

d. Consumption of Taxable Goods and Services by Foreign Agencies.

Another facet of transparency that deserves to be highlighted is the extent to which foreign agencies fail to assist the tax authorities by providing information about their consumption of taxable goods and services, notably rental real estate. Foreign agencies hound African governments to improve their tax performance, yet when the tax authorities ask for information about their rental transactions the foreigners either claim diplomatic privilege or understate their rentals in order to avoid putative rent increases. Indeed, a part of the burden of improving tax administration lies on foreign residents.

Rentals account for 50 to 60 percent of urban housing market in Madagascar and up to 80 percent among the low income groups (World Bank Country Studies, 1993, p. 103). Given the substantial demand for rental properties, the rentals are at high levels and therefore are a viable source of income to the real estate owners. While no similar figures are available for Tanzania, the fact remains that rentals here also are on the high end.

A desirable instrument of transparency is to require renters of real estate to identify their landlords and declare rental payments. Rental income is grossly undertaxed in most African countries. Many renters will of course collude with their landlords to underdeclare, but this is an area where the introduction of presumptive taxation would be relatively simple, since the level of rents, especially for high-value commercial and residential property, is widely known. A particular target here should be the resident foreign community, which pays some of the highest rents; SSA landlords hide most of their income. If foreign missions with diplomatic privileges make any declarations at all -- i.e., unless they insist they cannot be required to declare rental payments -- the declarations might be presumed to be true.

e. Measurement of Tax Base.

Transparency requires an on going measurement of the different components of the tax base and collections in relation to the base, white regular publication of findings. This involves economic estimation of imports legally subject to duties; domestic transactions subject to VAT, excise or sales taxes; corporate and individual income legally subject to direct taxation; etc. Comparing these figures with actual collections then creates a basis for estimating evasion and avoidance of the different taxes.

f. Performance Indicators of Revenue Services.

Transparency similarly requires detailed indicators of performance of the revenue service, e.g., number of returns the service has processed from businesses in category X during year Y, compared with independent data (commercial register/) about the actual number of businesses in that category.

g. External Transparency.

Formation of public perceptions regarding the role of government revenue collection in development policy is also a key dimation to this process.. What steps does the government take to explain to the public the social costs of a large budget deficit? (As principal cause of inflation; its reduction as a condition for IMF/IBRD “clearance” and resulting foreign assistance etc.). Does the government or anyone else relate its revenue performance to comparator countries? What role does the press play in publicizing the issue ? The research should include some public opinion polling to assess perceptions. E.g. how far does the public regard large-scale tax evaders and avoiders, and their political help-mates, as contributing to inflation and other ills.

h. Internal Transparency.

There is a need for more complete and qualitatively better information available to the tax administration -- lack of which can be a severe constraint on its efficiency. For instance, modern taxes such as sales, or value-added taxes, and income taxes have to be assessed on the basis of the books of account. But specific excises, specific import and export duties, traditional taxes on cattle, and poll or hut taxes are to be assessed in terms of the count of units. Viewed thus, the revenue officers need more general education and specific kinds of training to apply modern taxes and more information is required. A detailed example could be offered from the area of income taxation. It is obvious that on grounds of equity the residents should be taxed on their world-wide income. Failing this, it will result in two individuals with equal income being taxed differently in case one of them obtains a part of his income from foreign source or a foreign bank

account, while the other obtains all his income from domestic sources. For an evenhanded assessment of world-wide income, the revenue authorities need to have the required information.

i. Development of Local Expertise.

A related point is the extent to which local economists have interested themselves in the issue and written about it, for publication or otherwise. What is required is to get the local profession to develop some expertise and start putting pressure on government and the oligarchs? Traditionally economists focus more on so-called "tax policy", but the more practically oriented say that, in many countries, "tax policy is, more than anything else, tax administration!"

VI. Conclusion and the Directions of Proposed Research.

The analysis draws attention to the possibility that tax administrators can improve compliance through 'soft' approaches like taxpayer services, procedural fairness, or positive incentives for compliance, all of which could enhance transparency in tax administration

There are some hard reasons why one should expect these soft approaches to be effective. If taxpayers tend to have a bias towards resolving uncertainty in their favor, guidance from tax administrators that reduces uncertainty should improve compliance. In this framework non-compliance is not viewed as an all or nothing decision but rather as a range of levels of aggressiveness exhibited by taxpayers in response to varying degrees of uncertainty about the rules. In this light, investments to reduce taxpayer uncertainty -- clear instructions, regulations, answers to taxpayer questions or enhancing transparency, should increase voluntary compliance. Also, if taxpayers do not expect procedural fairness, under which issues are resolved on merit, they may view their tax return as the first offer in a bargaining process and intentionally reduce voluntary compliance. A significant amount of non-compliance results from taxpayers attempting to create rough justice for themselves because it is too burdensome for them to obtain tax benefits that they are entitled to.

In light of the analysis in this paper, the proposed research will seek to investigate the following aspects of transparency with a focus on Tanzania and Madagascar.

- * To obtain information about the state of taxpayer education and services in Africa and initiatives taken to improve them.
- * To obtain any data on avoidance and evasion by politically influential taxpayers in Africa and on the results of efforts to increase their compliance.
- * To obtain any information designed to measure taxpayer attitudes and estimate how far noncompliance results from a perception that "oligarchs" evade a large share of their tax liabilities.

- * To assesses how widespread and competent is the estimation of real tax bases and degrees of taxpayer compliance and avoidance in Africa. Who conducts such analysis, what techniques are used, how widely are findings disseminated and to what effect?
- * What information is available about leakage through official tax exemptions in Africa? Has the continent seen initiatives to increase the transparency of exemptions, and if so, what have been the results?
- * What information is available about performance of African tax authorities in reducing various forms of leakage and increasing compliance? Is there any information about their response to publicity about deficiencies in tax collection?
- * How far is urban rental income effectively taxed in Africa, and what information is available about cooperation or noncooperation by foreign residents in declaring the rents they pay?
- * To what (if any) forms of external audit and control are tax authorities subject in Africa? How effective are these? Have there been any initiatives in Tanzania and Madagascar or elsewhere in Africa to exercise the functions assigned to an institutional arrangement such as a special tax ombudsman? If so, what have been the results?

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