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The compliance costs of Value Added Tax (VAT): The case of the Republic of Mauritius

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Abstract

The evaluation of taxpayers' compliance costs has grown in significance within the tax system research over more than two decades and has predominantly emanated from developed countries. However, compliance costs literature is quite limited in developing countries. This article measures the compliance costs of the Value Added Tax (VAT) for the Republic of Mauritius for the period of 2001/2002, and using consumer price index has estimated the compliance costs for the year to 2009/2010. It also measures the net compliance costs after the effect of the benefits to the VAT registered traders. The regressive effect of compliance costs is proven, measured by the different categories of traders and the number of employee. A regression model estimating the magnitude of total compliance costs was also formulated with the turnover level, number of invoices and methods of recording as significant indicators.

Keywords: Compliance costs, VAT

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1. INTRODUCTION

The imposition of taxes represents a transfer of resources from households and businessmen to the Government. Taxation is an inevitable instrument in modern economies to fund public spending and meet fundamental economic and social objectives. It is one of the main tools used by government in financing of public administration, managing monetary policy, funding social and economic services, and the maintenance of welfare state. Import tariffs and excise duties often constitute the most important revenue sources in many developing countries. This trend however has faced a recent significant challenge, as many of the developing countries are now either lowering their trade taxes or replacing them with the consumption-type Value Added Taxes (VAT), sometimes referred to as the Goods and Services Tax (GST). This shift helps in reducing economic distortion caused by trade tariffs which are now largely discredited in the modern world economy and are increasingly regulated by the World Trade Organisation (WTO). Tax simplicity has long been viewed as good tax policy and researchers in finance have been studying the magnitude and sources of these taxes and the implying costs.

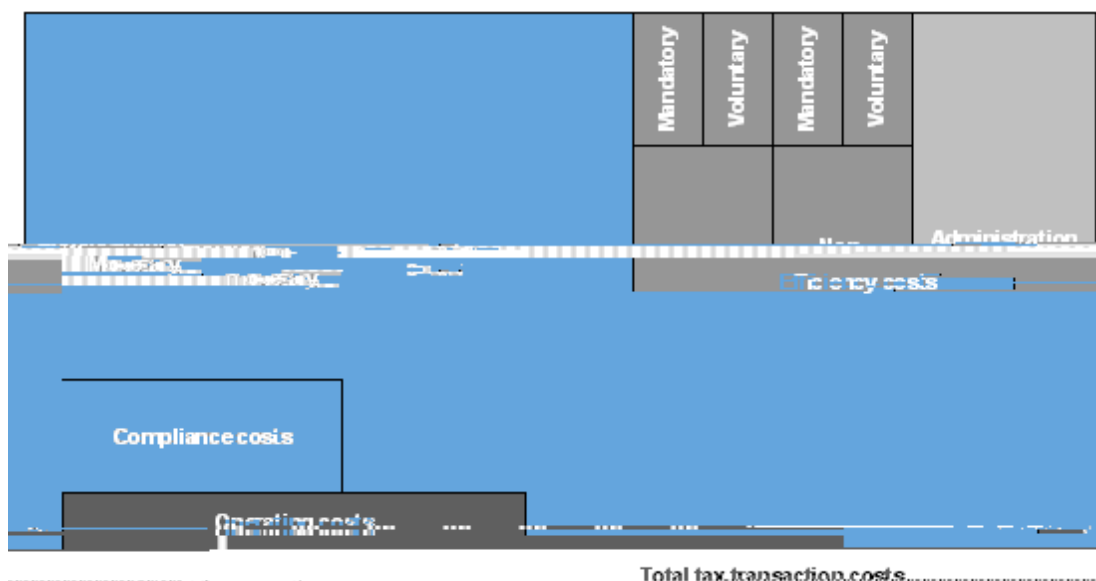
Research in compliance costs in countries in transition (CITs) is a relatively new phenomenon. The main reason for a previous lack of interest in such studies is a shortage of experts, cooperation of tax authorities, non-existent or old survey data and constant changes in the tax system. The Republic of Mauritius, like other developing countries, has also witnessed some evolution of the tax system by replacing the retail sales tax and reducing the trade tariffs and excise duties. Therefore a first study on compliance costs for VAT for the Republic of Mauritius is highly commendable and may be helpful in tax policy and tax reform.

compliance costs of VAT for the Republic of Mauritius. What can be implicated from this paper though there may be various factors governing the compliance costs of VAT, the number of invoices handled by a business can be classified as the most significant factor. Besides, the size of the firm and the professionals are key determinants to the net compliance costs as the small firm had a 'disbenefit' to VAT. This is very important for policy makers as there are significant variations not only in size but type of business, therefore factors should be given different weights when designing policies for the different types of firm.

2. THEORETICAL CONCEPTS OF COMPLIANCE COSTS

The imposition of taxes is a necessity tool for government as it represents a major part of total revenue. The collection of taxes generates two broad types of social cost namely efficiency and operating costs (administrative plus compliance costs). Efficiency costs (also referred to as dead weight loss or excess burden), arise from tax-induced changes in relative prices, distorted consumer and producer choices, and can ultimately bring losses in overall output. Operating costs form a necessary component of raising tax revenue but the important point is to know the appropriate and acceptable level of costs. Operating costs are justifiable if the costs of raising the tax revenue (including the efficiency costs) are outweighed by the net benefits. Administrative costs are the costs borne by the tax authority to collect taxes and their other duties towards the taxpayers. Compliance costs are costs that are borne by taxpayers to abide by the tax authority. Compliance costs cover a range of both monetary and non-monetary cost. They include costs such as: acquiring the necessary and relevant knowledge of the tax system; compiling records; acquiring and maintaining the accounting tax systems and submitting of tax returns forms; evaluating the tax effectiveness of alternative transactions and methods in complying with law requirements; and collecting and remitting taxes to the tax authority.

Figure 1: A breakdown of tax transactions costs



(Source: Oliver and Bartley, 2005)

Compliance costs might also be divided into money costs, time costs and ‘psychological’ costs. Money compliance costs include costs of employing additional staff in the tax department; fees paid to accountants for tax advice and incidental costs of postage, telephone, and travel to communicate with tax advisers or tax office, which are easily quantifiable. Time compliance costs are incurred where the tax legislation imposes duties such as the filling out of tax returns, additional ledger posting, and records to be made for tax purposes. However, the above two categories of compliance costs have been recently mitigated by the facility of taxpayers to fill in their return on-line. The most difficult costs to measure are the ‘psychological’ costs of complying with the legislation. Taxpayers suffer stress, anxiety and frustration in an attempt to abide by the tax legislation. However, no studies have managed to measure physiological costs successfully. Research done by Woellner et al in 2001 has used a combination of approaches to measure physiological costs of taxation. It includes the additional worry and anxiety to master and perform the complex duties imposed by the tax legislation efficiently under sanction of a legal penalty. Smith (1776 Pp 564) put it:

Though vexation is not strictly speaking expensive, it is certainly equivalent to the expense at which every man would be willing to redeem himself from it.

Sandford (1995) and Pope (1990) refer to a concept of net compliance costs. This is defined as the gross compliance costs minus the value of any cash flow benefit or plus the value of any cash flow cost. Cash flow benefit arises when there is a time gap between the time tax liabilities are actually incurred and the tax payment. For example, any increase in compliance costs can be offset by additional interest earned (or cost borne if a reclaim) on the differences in the timing of VAT remittances to/from the Revenue Department (after 20 days of the return period). These are private benefits or costs, not to the society as a whole. While net compliance costs and cash flow benefits

the Netherlands, while empirical studies have been undertaken for the first time in Ireland, Switzerland, Australia, Spain, Sweden and more recently in Singapore (Ariff, Loh, and Talib, 1995).

Research into compliance costs in CITs is a new phenomenon. The main reasons for the lack of interest in compliance costs in the CITs are shortages of experts — who may be overloaded with more, pressing issues such as no taxpayers' associations and no civil initiatives (Ott & Bajo, 2000). There are also several obstacles within the CITs to initiate such research — lack of interest, little cooperation of tax authorities and usually non-existent surveys data in CITs.

An article published by Evans (2003), revealed both the breadth and depth of research in the field of tax operating costs in the last twenty years after initial neglect. The impact and existence of tax operating costs is not a recent feature — it goes back to the eighteenth century, when the concept of taxpayers burden was first introduced by Adam Smith's (1776) four canons of a good tax practice (equity, certainty, convenience, and economy). This paper examined most of the major, and some minor, administrative and compliance costs studies published since 1980. This paper highlighted the increasing recognition of the impact of operating costs upon proposed changes in the tax law.

The principle aim is to go further and make available in a *single source* all of the most recent research in tax operating costs, thereby providing a guide to interested readers and prospective researchers to obtain an initial knowledge on studies carried out in this field. Sixty (60) studies were identified in the period since 1980 and split into four major regions, North America, Europe, Australasia/South-East Asia and the rest of the world.

Tran-Nam and Evans (2002, Pp 393) have noted that the early quantitative studies of tax compliance costs in the 1930s to 1960s took place in North America, a trend already highlighted earlier as the main area of initial studies. Researchers of diverse academic backgrounds, including management science, business studies, accounting and economics, undertook those studies. Various methodologies were used and most studies identified many of the features now regularly cropping up, such as, the regressive nature of compliance costs, and the potential trade-off between administrative and compliance costs.

The compliance costs studies laid more emphasis on quantitative techniques and used various methodologies to research into aspects of compliance cost. The methods used as stated in Evans (2003, Pp 70) ranges from questionnaire and/or mail surveys (Allers, 1994) to estimating/stimulating techniques (Thompson, 1984).

The main finding of these studies is that VAT compliance costs are very regressive and falls disproportionately on small firms. In particular there is a clear economy of scale, so that when the compliance costs as a percentage of turnover is measured, the effect of compliance costs for small firms is very large, yet the compliance costs of large firms are insignificant.

Studies prior to Hasseldine and Hansford (2002) have not taken the physiological variables into consideration, which is more visible for small business where it is very difficult to separate personal and business issues (Storey, 1994). A further neglected area is that UK small businesses have a large proportion of businessmen who belong

to the ethnic minority and English is not their first language. This may contribute to a greater difficulty in complying with the tax regulations. These two dummy variables have been studied by Hasseldine and Hansford (2002) and they found them to be quite significant. But the present paper does not take into account the physiological factor of compliance costs.

4. METHODOLOGY

4.1 Data and sample

The main sources of primary survey data were from lists of traders in the Yellow Pages telephone directory, as the official lists of registered traders were requested from the VAT Department but this data could not be forwarded due to the Data Protection Act. However, the official lists and collaboration of the VAT department was sought, and this is considered one of the major problems encountered by most CITEs economies as tax authorities refuse to cooperate. In fact, tax administrations withheld their support in almost all the countries in which the earliest research projects into compliance costs were carried out, except in New Zealand and Sweden.

A stratified random sample was therefore chosen based on the different categories of firms as provided from the traders' lists in the Yellow Pages telephone directory. A large-scale mail survey (1,000 trades) was used, as it is a chance to obtain a large random sample that is most representative of the underlying population.

Consequently, the grossing up of the total figure was based on the mean compliance costs for each category of the sample multiplied by the total number of firms registered for VAT for the year 2001/2002 in each category — based on the classification used by the VAT department.

4.2 Regression model

Compliance costs were evaluated as far as possible in money terms for the fiscal year 2001/2002 and estimated the range of total compliance costs at a 95 per cent confidence level. Then, using the consumer price index and the VAT rate, the compliance costs were estimated in money terms.

Where,

b_0 - Constant value

b_1 - Standardised coefficient of T (turnover band)

b_2 - Standardised coefficient of I (no. of Sales invoices)

b_3 - Standardised coefficient of R (types of business records)

b_4 - Standardised coefficient of V (Net VAT paid)

b_n - Standardised coefficient of the nth predictor (X_n)

ϵ_1 - Error (difference between the predicted and observed value of Tcc)

To be able to obtain the **Total Compliance Costs (Tcc)** of VAT in the Republic of Mauritius, the compliance costs obtained from the questionnaire were grossed up according to the number of firms registered in each category from the official information obtained from the VAT department annual report. The raw data obtained from the questionnaire were then grossed up using the normal gross-up procedures for each category to be able to compute the total compliance costs for the Republic of Mauritius.

Thus, the survey helped in calculating the magnitude of **Tcc** in the Republic of Mauritius and also estimated the cash flow benefits arising due to the timing in remitting the VAT collected to the authority, to obtain the **Net Compliance Costs (Ncc)**. The total tax compliance estimated from the survey were then further analysed and an attempt made to show any correlation existing between the size of the business and its tax compliance costs. It also investigated Tcc per employee and highlighted any reasons for such a burden for VAT among the firms in Mauritius. The survey also attempted to find out whether tax compliance costs of VAT had a relationship to the size of the business based on the turnover band or the number of employees.

Finally, the study recommended certain useful measures in order to reduce the compliance costs and thereby improving the efficiency of VAT collection as a source of revenue for the government.

5. FINDINGS

5.1 Magnitude of the gross and net compliance costs

For the analysis, the firms have been classified based on the turnover as follows:

Size	Turnover band
Very Small	Under MUR 15 million (inclusive)
Small	Between MUR 15 million to MUR 40 million (inclusive)
Medium	Between MUR 40 million to MUR 125 million (inclusive)
Large	Above MUR 125 million

These distinct categories were chosen as firms were classified according to the turnover level, and as it is also the criterion used by the VAT department for registration purposes and determination of the return period. Before trying to seek for any causes or characteristics that resulted upon the imposition of VAT by the government, the composition and size of compliance costs were calculated from the data collected.

The compliance costs for the fiscal year to 2001/2002 can be summarised in Table 1 below, indicating the **Tcc** broken down into **Internal Compliance Costs (Intcc**, incurred by the within the firms), **External Complili4(C7) Td1 Tf-3560044904F48003904956451000**

Table 1 Total and net compliance costs for the year 2001/2002

It can also be estimated that at a 95 per cent confidence level, the total compliance

relatively high compared to say only five per cent in Australia as revealed by the ATO study in 1998. This may be explained by traders preferring to transfer their burden of calculating their tax to the accounting firm acting as tax agent rather than having the VAT return in-house. Besides this, the total compliance costs as a percentage of total revenue collected from VAT is around 5.3 per cent, which is relatively higher than that of the UK at only 2.8 per cent (Sandford et al., 1981) but much lower than that of Australia (which had WST in 1998) at 12.1 per cent (ATO, 1998). The latter has revealed to be relatively higher due to the complexity existing in Australian tax law.

5.2 Regressivity of compliance costs

One of the most common aspects of total compliance costs in all research studies has been without doubt the unbalanced distribution of compliance costs among different traders. It has often been revealed that 'large' firms bear relatively less total compliance costs as a proportion of total turnover size than 'very small' firms. The economies of scale can be easily observed by expressing Tcc as a percentage of total turnovers (TT). Sandford *et al* (1981) found that small firms (those with turnover less than £ 50,000 per annum) could incur as much as 1.17 per cent of their TT as CC, while very large firms (those with turnover above £ 1 million) incurred only 0.04 per cent. From the present study the pattern of total compliance costs as a proportion of total turnover are as shown in Table 2.

Table 2: Total compliance cost (Tcc) as a % of total turnover (TT)

Table 2, in which Tcc is expressed as a percentage of TT, reveals the full extent of the regressive nature of compliance costs. It can be noted that although in absolute terms the mean compliance costs th stM _ ab ent ev rb - acos MM® ac

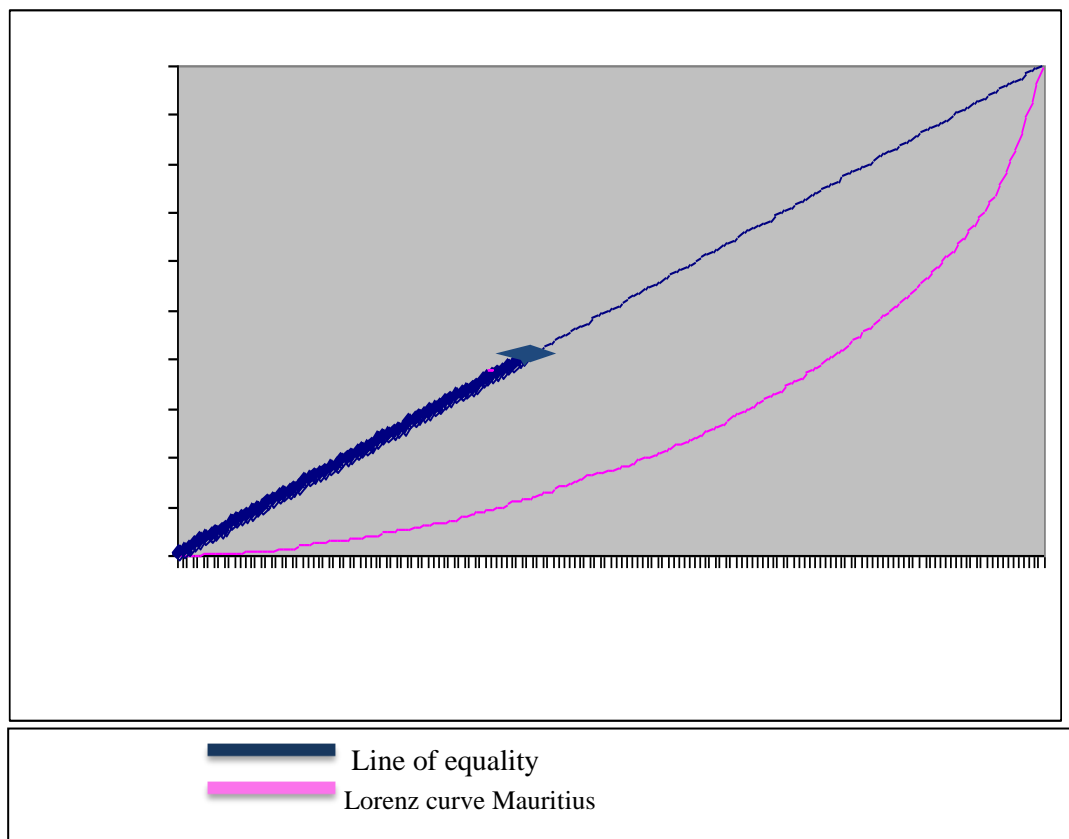
total concentration). The Gini-coefficient tells us how widely the total compliance costs 'altitude' varies with the turnover level in a given country.

From the responses, the main variables used are compliance costs per turnover level (Y_d) and the number of registered traders for VAT (n). The Gini-coefficient is calculated using the formula below:

$$\frac{\sum Y_d^2 n}{n^2 \bar{Y}_d^2}$$

The Gini-coefficient amounts to 0.49 and the curve in Figure 2 of cumulative point compliance costs per turnover level against the cumulative number of registered traders' indicating that there exists an element of inequality between the compliance costs and the category of traders. One hundred and one out of 166 traders, representing 61 per cent of total traders hold a compliance cost per turnover of approximately 20 percent only (0.2), that is, compliance costs per turnover is not concentrated in one category of turnover. If compliance costs per turnover level were the same for all categories of traders, representing total equality, the compliance cost curve would have been the straight line as shown in the graph.

Figure 2: Compliance costs per turnover level against number of registered traders



5.3 Number of employees as a measure of regressivity

Normally, the number of employees in a firm helps to define the nature and size of a firm. An alternative way of looking at regressivity is to examine the compliance costs per employee. The Tcc per employee helps to indicate how much each employee is contributing towards the costs involved in abiding to VAT legislation. The total compliance cost per number of employees decreases with the size of the business. The mean number of employees for 'very small' is eleven (11) times more than that of 'large' firms, rising from a mean employee of 23 for 'very small' firms to mean employee of 257 for 'large' ones, as clearly shown in Table 3.

Table 3: Compliance Costs per Employee

In a study done in Sweden (Huges, 2006), it was observed that the compliance costs per employee for small firms with one to four (1-4) employees were 35 times higher

employees in the payroll system. In a study done by Collard et al. (1999) it was found that compliance cost of PAYE was highly correlated to the number of employees ($R=0.94$). This can be expected as number of employees working in a firm has a direct impact on the tax withheld by their employer on their respective earnings, but it has no bearing on the VAT payable, which is a tax charged on taxable supply.

5.4 Indicators of total compliance costs

A multiple regression was run using the hierarchical regression model. The forward, backward and stepwise methods rely on the computer selecting the variables based on mathematical criteria. Many writers and social science researchers argue that this takes many methodological decisions out of the hand of the researcher, as decisions of which variables should be included will be based upon slight differences in their semi-partial correlations. However, these slight statistical differences may contrast dramatically with the theoretical importance of a predictor in the model. For this

7. REFERENCES

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