REPORT 1: TAX COMPLIANCE COSTS FOR THE SMALL BUSINESS SECTOR IN SOUTH AFRICA — ESTABLISHING A BASELINE

1. INTRODUCTION

Background to the study

The single all-encompassing objective of the South African government's "New Growth Path" is employment creation (National Treasury, 2011:2). According to South Africa's Minister of Finance, employment creation will be the principal barometer of South Africa's progress in its aim to achieve a more inclusive and equitable economic future for the country (National Treasury, 2011:1). To achieve this objective, the government's aim is to create five million jobs over the next ten years and, in so doing, reduce the unemployment rate from 25% to 15% (National Treasury, 2011:39). The sector of the economy that will predominantly assist in achieving this objective is the small business sector (National Treasury, 2011:46).

However, despite this critical role in the economy, this sector faces various challenges, one of them being a regulatory burden imposed by tax legislation (Strategic Business Partnerships for business growth in Africa (SBP), 2005:44; SBP, 2011:28). This plight of small businesses in South Africa with regard to taxation is confirmed in the following statement by one of the directors of the South African Black Entrepreneurs Forum:

> *"Overall, it is quite clear that our current [tax] system is biased against one of the most important sectors in the economy being small businesses. At a time where it is difficult for people to gain employment, they should be encouraged to start their own ventures and not be punished when they do."* (Qabaka, 2011:17).

This concern is echoed by the Small Business Project (2003:1), Abrie and Doussy (2006:1), the Foreign Investment Advisory Service of the World Bank Group (FIAS, 2007:1), Hassan (2011:1) and Retief (2011:2) who all concur that the tax system and its compliance requirements are a stumbling block to the growth of small businesses in South Africa.

The South African government is not oblivious to this dilemma. The following statement made in the 2005 budget speech by the then Minister of Finance, Mr Trevor Manuel, relating to small business and taxation, indicates governments' acknowledgement of the problem:

> *"…we have directed attention this year at the costs and complexity for small businesses of the tax code, because there is compelling evidence that simplified arrangements can assist significantly in creating an environment conducive to enterprise development"* (Manuel, 2005:28).

In 2005 the process of change in the South African Revenue Service (SARS) commenced. The intention was that these changes would assist small businesses in their start-up phase, reduce compliance costs and administrative complexity (red-tape), and include tax education and assistance (Manuel, 2005:1).

However, six years later, despite further tax relief offered to small business in South Africa in the 2011 budget speech (Gordhan, 2011:3), Retief (2011:1), the chairman of the South African Institute

of Professional Accountants (SAIPA), points out that the relief was not enough and more needs to be done to push for a more equitable tax regime that enables growth for this sector. This sentiment is echoed by Hassan (2011:1), at that time the project director for tax of the South African Institute of Chartered Accountants (SAICA). Qabaka (2011:15) also has the following to say regarding small business tax incentives that have been introduced by the SARS since 2005 and the overall effect of the tax system on small businesses:

> "*While such incentives may have resulted in some limited relief, it is argued here that the actual structure of South Africa's current tax system is so heavily biased against small businesses that any such relief is negligible*".

1.2 Need for the present study

Statements such as the above (made in 2011) might have merit, but have no value without statistical evidence validating them. Studies were conducted by FIAS in 2006 (FIAS, 2007) and by Govender and Citizen Surveys in 2007 (Govender & Citizen Surveys, 2008) to identify and measure the tax compliance costs for small businesses in South Africa. These studies found that tax compliance costs for small businesses were regressive. No recent follow up study has been conducted to determine whether the tax compliance costs are still regressive and if they have increased or decreased since 2006/7.

Furthermore, although the abovementioned two studies considered the tax compliance costs incurred by small businesses, they did not consider or take into account in their determination of the tax compliance costs all the activities (broken down into their various components) that are necessary for a business to be tax compliant; nor did they delve into the time taken to perform the core accounting functions (broken down into their various components) involved in running a business — which is essential in addressing the tax/accounting overlap which is regarded as one of the pitfalls in tax compliance cost research (Tran-Nam, 1999:161).

The concept of tax compliance benefits, which come in the form of cash flow, tax deductibility and managerial benefits (Sandford, Godwin & Hardwick, 1989; Tran-Nam, Evans, Walpole & Ritchie, 2000:232) is another consideration that was not addressed in the above two compliance cost studies.

The *perception* of the effectiveness of the small business tax concessions is also considered an important element for consideration in the measurement of tax compliance costs, as is highlighted by Qabaka (2011:15). A need therefore arises to evaluate the perceptions of the effectiveness of these concessions.

1.3 Objective of the study

The research objective of the study was the measurement of tax compliance costs for small businesses in South Africa. In fulfilling this objective, an evaluation of the gross tax compliance costs incurred by a small business in South Africa to meet its tax obligations was performed. An attempt was made to identify and measure the benefits (specifically managerial benefits) derived by small businesses in South Africa as a result of complying with tax obligations with the aim of establishing the *net* tax compliance costs (i.e. gross tax compliance costs less tax compliance benefits). To establish if the small business tax concessions are effective in reducing the level of compliance costs incurred by small businesses, an evaluation of the eligibility for, adoption and

usefulness and complexity of these concessions — as perceived by the respondents — was investigated.

This study will provide a baseline of tax compliance costs against which future studies and enhancements to the tax system could be measured. This study also forms part of an international tax compliance cost study across four different countries which, apart from South Africa, include Australia, Canada and the United Kingdom.

The remainder of the article will first describe the research methodology employed (section 2) and then define the terms used in the study (section 3). Thereafter, the empirical results will be presented (section 4), the conclusions documented (section 5), the need for future research highlighted (section 6) and acknowledgements for assistance with this study noted (section 7).

2. RESEARCH METHODOLOGY

2.1 Overall methodology employed

A deductive research approach was adopted using a survey strategy (Saunders, Lewis and Thornbill, 2007:119-122, 138). An empirical study was conducted collecting data from respondents by means of an electronic questionnaire distributed by the SARS, which was the measurement instrument in this study. The design of the electronic questionnaire (measuring instrument) was based on international best practice and utilised a common framework (adapted for South Africa) to ensure ultimate comparability in the international comparative study.

In order to detect weaknesses, not only in the design of the questionnaire but also in the procedures and protocols utilised during the data collection process (Cooper & Schindler, 2008:91), a pilot study was initiated on 17 March 2011 and completed on 3 April 2011. The pilot study was conducted in the same manner as envisaged for the final survey. Where possible, the recommendations made by local and international academics, and the World Bank international survey experts, were taken into consideration and adjusted where possible without jeopardising the international comparability. In addition to these comments, 28 responses from small businesses were received. This appears to be in line with the numbers contemplated by Cooper and Schindler (2008:91). These responses provided insight into potential questionnaire problems, as well as future analysis considerations. To the extent possible, the problems detected in the pilot study were corrected, thus ensuring that the final questionnaire was suitably adjusted to cater for the eventualities identified and to ensure that problems encountered did not occur again.

2.2 Population and response rate

The unit of analysis and population consisted of small businesses (turnover of R14 million or less) registered with SARS for which SARS had an e-mail address at the time the questionnaire was distributed. As the whole target population (as described above) was selected, no statistical sampling techniques were used.

The questionnaire was sent out to 88 057 small business taxpayers (Murugan, 2011a). Reminder e-mails were sent out during the survey period and there was a definite increase in the number of responses due to these reminders (Meintjes, 2011). The number of usable questionnaires received from the respondents amounted to 5 865, which represents a response rate of 6.7%. Although Saunders *et al*. (2007:358) indicated that internet based surveys are likely to have a response rate of

11% or lower, these response rates are considered rather low even for web surveys (Cook, Heath & Thompson, 2000:829; Dilman, Phelps, Tortora, Swift, Kohrell, Berck & Messer, 2009:7, Shih & Fan, 2008:257). However, it must be mentioned that the electronic survey platform used to distribute the questionnaire could unfortunately not determine how many of the e-mails that were sent out were undeliverable (Murugan, 2011b:2). This could have had a major effect on the response rate and consideration should be given to this fact before concluding on the response rate. In addition to this, various other reasons and possible explanations for the low response rates, such as, *inter alia*, the fact that the questionnaire responses could not be saved at any given time resulting in the questionnaire having to be completed in one sitting by the respondents, the length of the questionnaire (it was long and of a detailed nature), the server downtime and the fact that the questionnaire was only provided in English should also be taken into account. Although one can therefore not come to any definite conclusions about how representative and statistically reliable the sample was, 5 865 responses should nevertheless provide invaluable information and insight into an area where there is currently no reliable and up to date statistical information available.

3. DEFINITION OF TERMS

Before the results of the survey are discussed, it is critical to first establish what is meant by a "small business", "tax compliance costs/benefits" and "small business tax concessions". The definitions and explanations of these terms are discussed below.

3.1 Small business

South Africa has, from an economic as well as taxation perspective, no single consistent definition of a "small business" available (SARS, 2011a; Smulders, 2006:15-19). To ensure comparability to previous compliance cost research in South Africa, this study defined a small business as a business with a turnover of **R14 million** or less**.**

3.2 Tax compliance costs

For the purposes of this study, tax compliance costs include **internal costs**, as defined by Turner, Smith & Gurd (1998) that is, the cost of collecting, paying and accounting for tax on products or profits of the business, and on the wages and salaries of employees together with the costs of acquiring the knowledge to enable this work to be done; and **external** costs, mainly in the form of advisors costs — using professional tax service providers is one of the main costs contributing to the cost of complying with taxation legislation (Coolidge, Ilic & Kisunko, 2009:26). In an attempt to prompt the respondents to differentiate between their time spent on tax-related activities and time devoted to accounting activities, a separate list of both tax and accounting activities were provided to them in the questionnaire. It was hoped that this would minimise the impact of the purely accounting compliance costs on the survey results.

3.3 Tax compliance benefits

Tax compliance does not necessarily only result in costs, but may also result in benefits (Sandford *et al.*, 1989:13). Three broad categories of tax compliance benefits have been identified and become established by various authors in tax compliance literature (Lignier, 2009a:6, Tran-Nam, 2001:281; Tran-Nam *et al.*, 2000:232; Pope, 1993:81; Sandford *et al.*, 1989:89). The first being cash-flow benefits, the second being managerial benefits, and the third being tax deductibility benefits.

Cash-flow benefits arise from the use of tax revenues for a period before they must be paid over to SARS (Pope, 1993: 75; Rametse, 2010:4; Tran-Nam *et al.*, 2000:232). An example of such a benefit is the lawful delay in payment of the tax collected by the business on behalf of the revenue authority — such as VAT and employees' tax (PAYE) in South Africa — to the revenue authority (SARS).

Managerial benefits, may arise in various forms such as better record-keeping and use of technology (Rametse, 2010:1; Coolidge *et al*., 2009:4), improved knowledge of the financial affairs of the business in particular in the form of increased knowledge of their complex accounting information systems (Lignier, 2008, 2009b:6-7, Lignier, 2009c:8,12), and improved business or managerial decision-making due to a requirement in terms of tax legislation to maintain records (Tran-Nam *et al.*, 2000:232; Lignier, 2009c:6). For the purposes of this study, the focus will be on managerial benefits because, as far as small businesses are concerned, managerial benefits are expected to be much more significant than cash-flow and tax deductibility benefits and also because they have not been covered by previous studies (Lignier, 2011:1).

Tax deductibility benefits arise when the income tax system permits some tax compliance costs to be treated as a legitimate deduction for tax calculation purposes (Tran-Nam *et al*., 2000:233; Pope, 2001:14). An example would be provisions in the tax system permitting businesses a deduction from their taxable income for the services of their tax practitioners and tax-related incidental expenses.

3.4 Small business tax concessions (SBTCs)

The South African government, recognising that small businesses are important to the economy, has granted certain tax concessions (tax relief measures) to these businesses. These concessions come in various forms such as the small business corporation (SBC) tax regime, the small retailers VAT package, the capital gains tax (CGT) concession for small businesses, the ability to submit VAT returns every four months (as opposed to every two months), the simplification of the basis on which to pay the second provisional tax payment and a reduced application fee for a private binding ruling. Annexure A summarises each of these concessions. Each of these concessions, except for the last two, was considered individually in the study. The fact that the last two concessions were not considered separately is noted as one of the possible areas for future studies of a similar nature.

4. EMPIRICAL RESEARCH FINDINGS

4.1 Measurement criteria

All compliance costs and times were calculated using the 5% trimmed mean, rather than the ordinary mean (average), to compensate for unusually high values being recorded in the responses to most of the questions. The trimmed mean is slightly different from the mean in that it removes a certain percentage of the responses from each extreme distribution (in this case 5% from the top and 5% from the bottom) before calculating the mean (Field, 2009:163). The use of a trimmed mean smoothes distortions in the data and provides a more systematic and useful method for detecting changes over a period of time, which is required for this study if it is to be used as a benchmark (Field, 2009:163). It was also used to ensure comparability of information across the five countries involved in the survey.

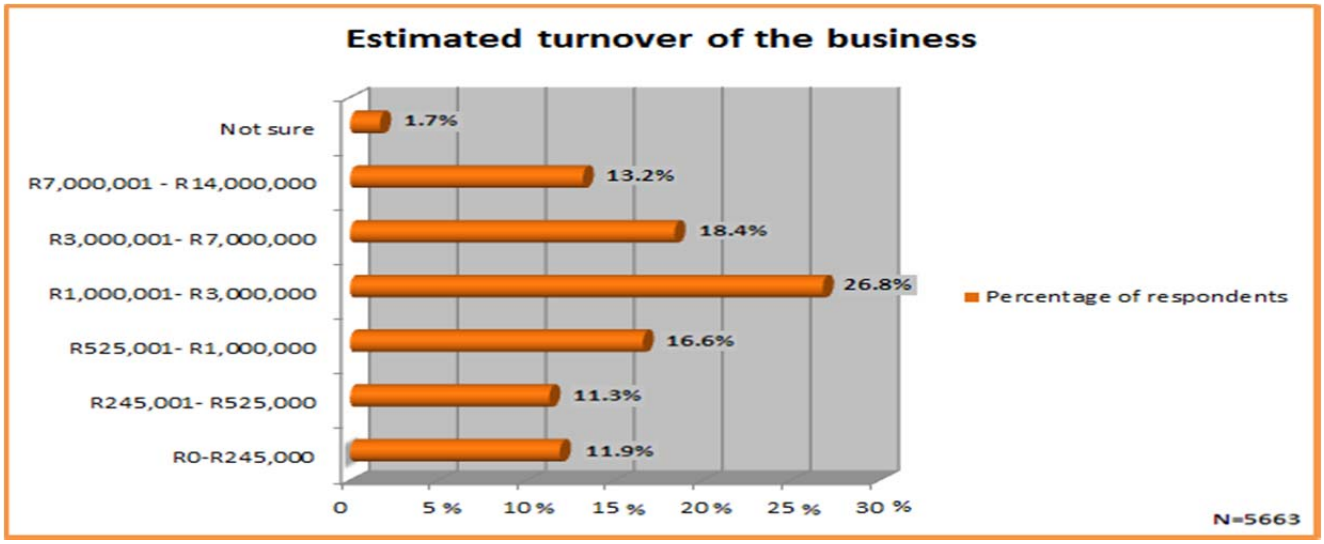
The questionnaire used to collect the information was divided into five components, namely (1) the profile of the respondents, (2) the time the respondents spend on internal tax and accounting activities, (3) the money the respondents spend on internal and external tax and accounting related

activities, (4) the perceptions that the respondents have of the benefits of tax compliance, and (5) small business tax concession considerations. Each of these components will be discussed next.

4.2 Profile of the respondents

The majority of respondents conducted their activities in the professional services sector, traded in the form of close corporations (CCs), were established businesses that had been in operation for more than five years, and had a turnover (see Figure 1) and employee numbers that tended to lean towards the higher end of the small business spectrum.

Figure 1: The estimated turnover of the business



When the demograph profile (number of employees and age distribution) of the survey respondents was compared to the FinScope (2010:5-17) study, which included interviews with 5 676 small business respondents (businesses throughout South Africa with a turnover of between R70 000 and R14 million), it revealed that start-up businesses appear to be under-represented in the current study, possibly due to their lack of internet access/e-mail addresses, which could have resulted in their exclusion from this study from the start. As no scientifically valid universe or reliable database of small businesses currently exists (African Response, 2006:11, Statistics South Africa, 2010a:vii, FinScope, 2010:4), and since details of the total small business population on the SARS database were not available at the time of the research, it cannot be conclusively determined whether these respondents are representative of the whole small business population in South Africa, but there is potentially a systematic bias against the smaller and less sophisticated businesses — as is further discussed below.

To ensure that the results of the current study were comparable to the two tax compliance cost studies previously conducted in South Africa (FIAS, 2007, and the Govender & Citizen Surveys, 2008), the demographics of the respondents to the current study were compared, where possible, to those of the other two studies. The FIAS (2007:18) and Govender and Citizen Surveys (2008:31) studies used different turnover categories from this survey, making any form of direct comparison difficult, but Table 1 below, indicates the distribution of the businesses over two broad turnover categories for all three studies.

Table 1: Comparison of turnover categories between current and other study results

TURNOVER/STUDY	Current study	FIAS (2007)	Govender & Citizen Surveys (2008)
R0 — R1 000 000	40.5%	56%	47%
R1 000 001 — R14 000 000	59.5%	44%	53%

This table shows that, although the current survey is more in line with the Govender and Citizen Surveys' results, it is definitely more biased towards the "larger" small businesses (businesses with a turnover of more than R1 million).

Despite these slight differences in the turnover, it was found that the current study appears to share a discernible common trend or pattern with the two other studies, which justifies a comparison between the three studies.

4.3 Quantification of internal tax compliance costs

In line with the latest methodology adopted by the Inland Revenue (New Zealand) (2010a:26), a four-step approach was adopted to quantify the internal tax compliance costs incurred by small businesses. The first step entailed establishing the hours taken by small businesses on tax compliance activities (per tax, per annum). A matrix format, as used by Evans, Ritchie, Tran-Nam & Walpole (1996), Colmar Brunton Social Research (2005:38) and the Inland Revenue (New Zealand) (2010a:16 and 2010b:37) in their surveys of small businesses, was used to collect the information regarding the time spent on the different taxes per tax compliance activity.

The second step required the respondents to indicate who performed the internal tax compliance activities in the business (owners, employees, or unpaid friends and relatives) and the percentage of time each of these persons spent on these tax activities. Establishing who spends the hours on tax compliance activities in the business facilitated the quantification of the tax compliance costs but, before this could be done, step three had to be performed.

The third step requested the respondents to provide what they would consider to be an appropriate hourly value for each of the categories of persons performing the tax compliance activities (owners, employees, or unpaid friends and relatives). To ensure that these values were reasonable, these self-evaluated values were benchmarked against externally available salary information to ensure that there was some degree of quality control over the values provided by the respondents.

Step four ultimately quantified the internal tax compliance costs by multiplying the total compliance time (hours) spent on each tax by the percentage of time spent by the different category of persons (owners, employees, or unpaid friends and relatives) on each tax, which was further multiplied by the appropriate cost (hourly rate) of internal time as established above. The results of this process are presented next.

4.3.1 Step 1 — Hours spent on tax compliance activities

a) Survey results

Table 2 below reveals that it took small businesses an average of 255 hours per annum to deal with all tax compliance related matters. For those businesses on the turnover tax system (TTS) — a simplified tax system for micro businesses: a business with a qualifying turnover of R1 million or less — it took a total of 155.2 hours (which consists of 67.3 hours to comply with the TTS and 87.9 hours to comply with PAYE as the TTS does not replace PAYE).

Table 2: Annual internal hours spent on different taxes: all small businesses

Taxes	VAT	IT	PAYE	CGT	Customs	Excise duties	Total all taxes (excl TT)	TTS
Mean	283.9	209.4	154.5	17.9	14.1	5.7	**685.6**	89.5
5% Trimmed mean	98.9	69.9	83.2	2.5	0.5	0.1	**255.1**	67.3
Median	31.0	29.0	38.0	0.0	0.0	0.0	**98.0**	30.5
5% Trimmed mean - percentage of total time	39%	27%	33%	1%	0%	0%	**100%**	-
5% Trimmed mean - hours spent on PAYE by TT respondents	-	-	-	-	-	-	-	87.9
Total hours spent on tax by TT respondents	-	-	-	-	-	-	-	**155.2**

To ensure that the total tax compliance time by a business registered on the TTS is taken into account, the PAYE time was also included in the comparison. What was found was that the total time spent by a micro-business on complying with tax is slightly less than two thirds of the time (61%) taken by a normal business (business not registered on the turnover tax system) with a turnover of less than R1million (registered for VAT and not paying customs and excise duties). It

appears that the turnover tax regime is meeting one of its intended objectives — reducing compliance costs by reducing the number of hours required for tax compliance activities.

When analysing the individual taxes, it was found that VAT is the most time-consuming tax for small businesses. From a size perspective, the number of hours needed internally to comply with tax legislation increased as the size of the business increased; however, it is evident that this time is regressive if taken as a percentage of turnover. This finding is graphically illustrated in Figure 2 below.

Figure 2: Annual internal hours spent on tax compliance activities per tax (excluding the turnover tax) — as a percentage of turnover

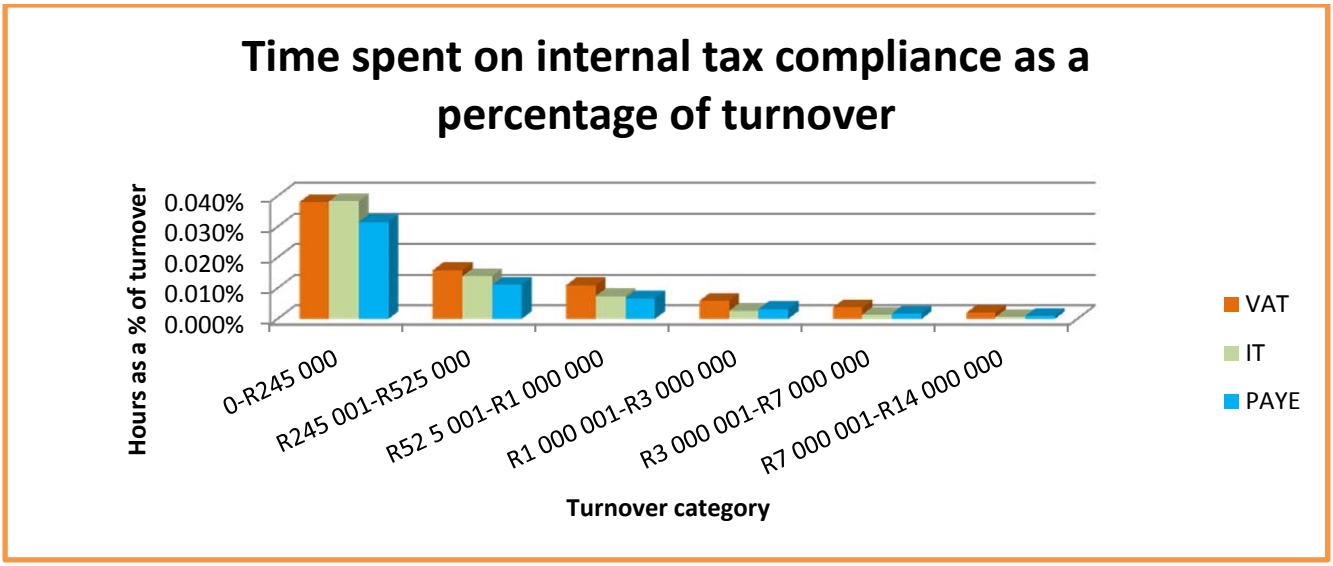


Figure 2 highlights the disproportionate burden faced by smaller businesses when it comes to tax compliance activities. When analysing this time in more detail (refer to Table 3 below), it became evident that recording information needed for tax, especially VAT, is the tax compliance activity that is the most time-consuming for small businesses. PAYE was the tax that took the most time to calculate, submit and pay the tax due. The number of hours spent dealing with SARS and learning about tax was also the highest for PAYE, which is possibly due to the recent changes to this tax brought about by SARS (SARS, 2011b:1-3). Tax planning and dealing with the tax advisor is the highest in respect of income tax.

Table 3: Mean* annual hours spent on different tax activities

Activity	VAT	IT	PAYE	CGT	Customs	Excise duties	Total all taxes (excl TT)	TT
Recording information	64.78	31.4	35.31	0.46	0.18	0.02	**132.24**	26.7
Calculating tax, filing return & paying tax	13.77	11.32	18.50	0.25	0.07	0.01	**43.92**	17.4
Dealing with SARS	6.50	6.2	10.62	0.08	0.04	0.00	**23.46**	5.0
Tax planning	2.73	5.0	4.66	0.30	0.02	0.00	**12.71**	4.0
Dealing with tax advisor	5.14	8.2	5.48	0.28	0.02	0.01	**19.11**	6.9
Learning about tax	6.00	7.6	8.61	1.15	0.21	0.09	**23.70**	7.2
Other activities	0.00	0.0	0.00	0.00	0.00	0.00	**0.00**	0.0
Total time spent	**98.92**	**69.85**	**83.18**	**2.52**	**0.54**	**0.13**	**255.14**	**67.31**

* 5% trimmed mean was used in this table

b) Comparison to other research

Unfortunately, none of the previous tax compliance cost studies broke the time taken to deal with tax activities down into as much detail as the current study did. However, certain activities were dealt with in both the current and previous studies, and these are set out in the table below.

Table 4: Comparison to other tax compliance cost studies of time taken to perform various tax activities

STUDY	Current study (mean)	Current study (5% trimmed mean)	FIAS (2007)	Govender & Citizen Surveys (2008)
HOURS PER TAX TAKEN TO:	**Record information needed for tax**	**Record information needed for tax**		**Record information needed for tax & submit tax returns**
VAT	167.26	64.78	-	Included below
Income Tax	82.43	31.49	-	Included below
PAYE	62.58	35.31	-	Included below
TOTAL	312.27	131.58	-	Included below
	Calculate tax, submit return & pay tax	**Calculate tax, submit return & pay tax**	**Prepare, complete & submit tax returns**	**Record information needed for tax & submit tax returns**
VAT	36.10	13.77	18.77	Included below
Income Tax	26.78	11.32	5.34*	Included below
PAYE	34.26	18.50	13.93	Included below
TOTAL FOR SUBMISSION OF RETURNS	**97.14**	**43.59**	**38.04**	Included below
	Record information needed for tax + Calculate tax, submit return & pay tax	**Record information needed for tax + Calculate tax, submit return & pay tax**	**Record information needed for tax + Calculate tax, submit return & pay tax**	**Record information needed for tax + Calculate tax, submit return & pay tax**
VAT	203.36	78.55	-	56.14
Income Tax	109.21	42.81	-	51.29*
PAYE	96.84	53.81	-	21.29**
TOTAL FOR RECORDING TAX INFORMATION AND SUBMISSION OF RETURNS	**409.41**	**175.17**	-	**128.72*** **

* Includes provisional tax

** Includes UIF and SDL

*** An overall average time of 181.57 was mentioned in the study, which differs from the above due to (it is assumed) averaging of information per tax as calculated from information per turnover category. As the more detailed averages were needed for comparative purposes, these totals were used in the table above rather than the 181.57 hours.

Despite the activities and taxes being slightly different across all three studies, what is evident is that the overall time taken (using either the means or the 5% trimmed means) to record information needed for tax, prepare, complete and submit tax returns, has increased. If the activities are reviewed individually, an exception to this overall increase arises in respect of the filing and paying of VAT returns (FIAS study) and the recording of tax information and submission of the tax return (Govender and Citizen Surveys study) — but only if the 5% trimmed mean is used. The extent of the overall increase cannot be commented on further due to the differences mentioned above, but notwithstanding this, an increase in time to comply with tax legislation is not desirable, either from a SARS or taxpayer perspective.

From a broad overall time perspective, a comparison can also be made with the Pricewaterhouse Coopers (PwC) and IFC (2011:69) *Paying taxes 2011* report which records the time taken to prepare tax figures, complete and file tax returns, and also pay the three major taxes — VAT, income tax (including provisional tax and CGT), and taxes on employees (PAYE, SDL and UIF). A case study methodology is used to record this information whereby tax experts from a number of different businesses compute the taxes and contributions payable based on standardised case study facts. This global study reveals that it takes 200 hours to perform the abovementioned functions in South Africa. This is slightly more than the 175.88 hours taken by the respondents of the current survey, i.e. 175.17 hours as in Table 4 above, plus CGT of 0.71 (0.46 + 0.25) being the time taken to record information, calculate, file and pay the tax due.

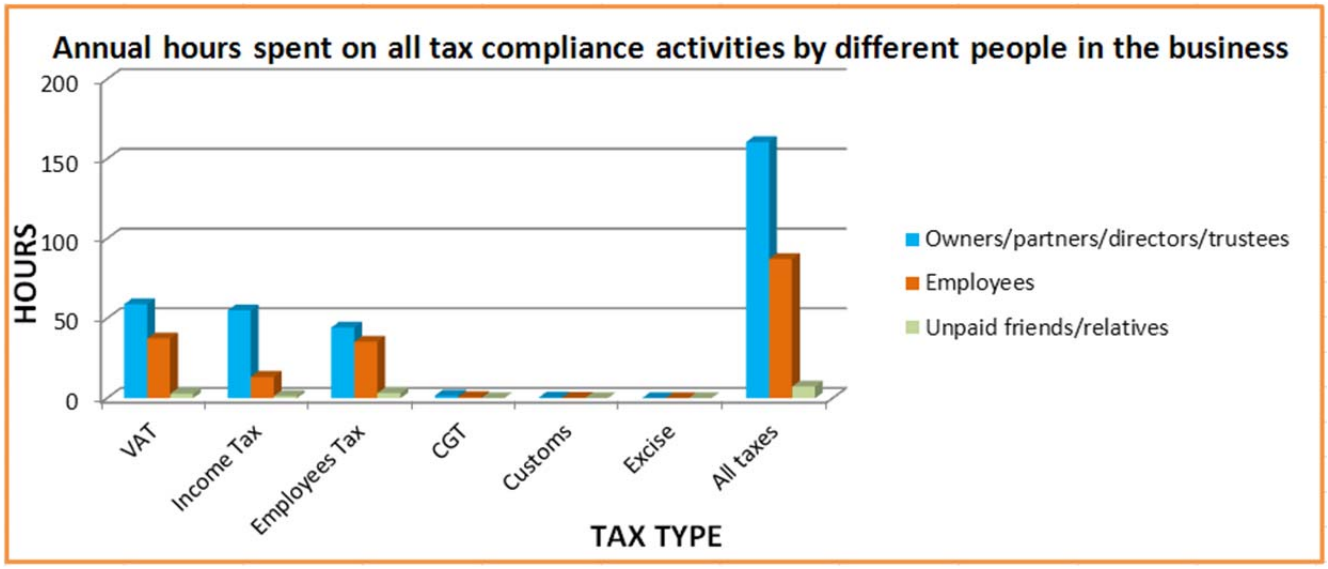
It is evident that the hours recorded by the respondents to the current survey are only slightly less than the PwC and IFC hours. What is of concern is that the PwC and IFC study bases its information on a “medium-sized” company that has five owners and 60 employees and that has a turnover of approximately R46 million (this is closer to a medium to large sized business from South Africa’s perspective). Although there are slight discrepancies between the exact tax activities that are included in these estimates, overall it appears that small businesses in South Africa are spending a large amount of time to comply with tax legislation when compared to medium to large-sized businesses.

Having established the hours spent internally on various tax compliance activities per year, it was necessary to determine how much this time is costing the business. Before this could be achieved, it was essential to determine who actually performs these functions within the business as the value of the time might depend on the person rendering the service.

4.3.2 Step 2 — Who performs the tax compliance activities?

Figure 3 indicates that most of the internal time spent on tax compliance activities was attributable to the owners, who performed 63% of annual hours related to tax compliance activities, with the employees performing 34% and unpaid friends or relatives the remaining 3%.

Figure 3: Annual internal hours spent on tax compliance activities — by different people in the business and per tax



VAT compliance took up most of the owners' and employees' time, with employees spending relatively more time on PAYE after VAT.

4.3.3 Step 3 — Valuation of time spent on different taxes

A contentious issue discussed amply in the literature (Allers, 1994:54; Evans, Ritchie, Tran-Nam, & Walpole, 1997:11; Pope in Sandford, 1995:101) is the value to be placed on the time spent by owners and employees of a small business. The valuation of this time in the current research was based on the methodology adopted by the Inland Revenue (New Zealand) (2010a:26) in their study on the quantification of small business tax compliance costs. Using this valuation method, the values provided by the respondents (per turnover category) for each type of person working or assisting in the business are set out in Table 5 below.

Table 5: Hourly rate of various persons' time according to the size of the business

BUSINESS SIZE CATEGORY	Owner	Employee	Unpaid friend/relative
R0 — R245 000	R353.53	R153.07	R192.13
R245 001 — R525 000	R423.36	R180.50	R200.48
R525 001 — R1 000 000	R470.39	R155.08	R225.44
R1 000 001 — R3 000 000	R483.97	R159.82	R243.93
R3 000 001 — R 7 000 000	R432.89	R167.19	R230.22
R7 000 001 — R14 000 000	R508.50	R201.54	R158.15
Not sure	R456.51	R157.39	R93.33

The respondent's self-reported values were benchmarked against average hourly rates obtained from recently conducted local publicly available salary surveys. The Accountants on Call (2010:1) *Salary Survey* as well as the Statistics South Africa (2010b:xii) *Monthly Earnings of South Africans Survey* were both carried out in 2010 and were considered appropriate as a benchmark for two reasons; firstly, they were recent and related to the same or similar period that the survey related to and, secondly, because they contained information on "accounting type" positions which are similar to the functions/positions that a person would be required to carry out in order to comply with tax. Two managerial positions were selected to obtain a benchmark of the owners' time: financial manager and financial accountant, because both of these positions seemed to encompass the functions that an owner would fulfil in a small business, and were more aptly suited than the other categories documented.

As no indication of the size of the business paying these remuneration packages was provided in the Accountants on Call (2010) *Salary Survey* to ensure that these rates were reasonable in respect of payments made by small businesses, the average rates in terms of that salary survey were compared to the Chartered Institute of Management Accountants (2010:15) *South Africa Part Qualified Salary Survey*, which provided a break-down of the salary information by business size. This comparison revealed that the average salary initially chosen was too large compared to the average salaries paid by small businesses in South Africa. The rates used for the owners were therefore adjusted to a lower level, more in line with remuneration paid by small businesses. To ensure this choice was valid, a further comparison of average salaries in the accounting/finance field was made with the Walters (2011:408) *Global Salary Survey* and Macdonald & Company's (2011:6) *Rewards and Attitudes Survey*. The results of this comparison further justified the use of the lower-paid category of person to obtain the most appropriate and reasonable value for persons working in these positions in South African small businesses.

A valuation of the employee's time was obtained by selecting two clerical functions: assistant accountant and balance sheet bookkeeper from the Accountants on Call (2010) salary survey. A rate for a trial balance bookkeeper was also provided (at a lower remuneration package) in the survey, however, this was not used, as more of the respondents to the current survey indicated that they had a good rather than a basic bookkeeping knowledge, implying that the higher salary option would be more appropriate in the current circumstances. The remuneration for both clerical functions was selected from the category of staff without a degree and with two to eight years' experience because more than half of the respondent clerks or administrative staff, and more than a third of the respondent bookkeepers, indicated that their highest qualification was having completed high school. Although the managers that completed the survey indicated that their highest qualification was a university education, for the reasons mentioned above (specifically payments by small businesses rather than larger ones), it was decided to use the lower category of remuneration. The values obtained are set out in Table 6 below.

Table 6: External average salary per hour* for selected tax functions

POSITION / VALUES	Lowest rate	Highest rate	Average rate
OWNER			
Financial manager	R 181.25	R 317.71	**R 249.48**
Financial accountant	R 145.83	R 250.00	**R 197.92**
EMPLOYEE			
Balance sheet bookkeeper	R 125.00	R 156.25	**R 140.63**
Assistant accountant	R 109.38	R 125.00	**R 117.19**

* An average of 48 working weeks consisting of 40 hours per week was assumed

As these values were lower than those provided by the respondents in the present survey, it was decided to obtain a further benchmark against which these rates could be tested. This benchmark was obtained from the values in the survey of monthly earnings of South Africans (Statistics South Africa, 2010b:xii). These rates (refer to Table 7) are significantly lower than both the self-assessed hourly values of this survey, and the values recorded in the salary survey of Accountants on Call (2010:1).

Table 7: Alternative national average salary per hour* for selected tax functions

POSITION / VALUES	Median
OWNER	
Manager	R65.63
Professional	R62.50
EMPLOYEE	
Technician	R46.88
Clerk	R28.13

* An average of 20 working days per month consisting of 8 hours per day was assumed

One possible reason for this is because the Statistics South Africa survey included all occupations and not specifically those in the accounting or finance field. Taking cognisance of this and the fact that the Accountants on Call salary survey data appears reasonable in relation to other surveys performed in this sector of the working community, it appeared reasonable to adopt the Accountants on Call salary survey values. As to which of the category values would best represent the value of time spent by these people, it was believed that, because the owner would most likely be regarded as performing the role of financial manager whereas the employee's role could more likely be akin to that of a bookkeeper, these functions were considered to be the most appropriate representation for each of these categories of persons. In addition to this, the values for these categories were also more aligned with the self-reported values provided by the respondents in the present survey. Thus the average rate of each of these roles was considered the most appropriate basis for representing the value of time for owners and employees of small businesses. The hourly rates to be used as an alternative valuation of the internal compliance costs of small businesses were therefore R249.48 for owners and R140.63 for employees.

The valuation of time for the unpaid friend or relative was a difficult undertaking and one which could not successfully be performed as no benchmark or selection criteria were clearly evident or available from the information obtained. For valuation purposes it was therefore decided to use the same values as those obtained for employees. This is regarded as prudent especially in the light of the fact that the respondents indicated that their unpaid friends or relatives were worth more than the employees of the business.

4.3.4 Step 4 — Quantification of time spent on tax compliance

a) Survey results

When the time recorded in step one was converted into Rand values using the rates discussed above, the internal tax compliance costs for small businesses in this survey amounted to R53 356 (see Table 8 below).

Table 8: Valuation of annual internal tax time by all persons

TAX / PERSON	Mean (R)*	Median
VAT	20 317.75	6 367.27
IT	15 821.91	6 568.87
PAYE	16 532.52	7 552.72
CGT	540.09	-
Customs	116.50	1.59
Excise	28.05	0.55
Total all taxes	**53 356.81**	**20 491.00**
TT	14 030.34	6 365.87

* 5% trimmed mean was used in this table

It is evident that cost of the internal time spent on VAT (mean: R20 317.75) was more than a third (38%) of the total amount spent on all taxes. Employees' tax was the next most expensive tax (mean: R16 532.52, closely followed by income tax (mean: R15 821.91) — this is the case even if CGT is added to the income tax time.

b) Comparison to other research

No direct comparison of these costs can be made to the FIAS and Govender and Citizen Surveys reports as the Govender and Citizen Surveys report did not manage to get respondents to attach a monetary value to the time taken by the owner or employees on internal tax compliance activities and the FIAS study only calculated the cost incurred by small businesses to prepare, complete and submit tax returns for VAT, income tax, provisional tax and PAYE. Therefore Table 9 compares the findings of the current study to the FIAS study but only in respect of the costs to prepare, complete and submit the tax returns for those taxes. However, the FIAS study also established that an average retainer for tax services would cost small businesses R24 158 per annum (FIAS, 2007:31). A retainer is usually paid annually up-front and would generally include most tax-related services not only the preparation and submission of the tax return. The value of the retainer was therefore compared to the total value for all tax compliance activities as calculated in Table 9 below.

Table 9: Comparison between two tax compliance cost studies of the valuation of annual internal tax compliance time

INTERNAL TAX COMPLIANCE COSTS (PER TAX) / STUDY	Current study (mean) (cost for all tax services)	Current study (5% trimmed mean) (cost for all tax services)	FIAS (2007) Retainer usually = cost for all tax services)	Current study (mean) (only cost to calculate tax, submit return and pay tax)	Current Study (5% trimmed mean) (only cost to calculate tax, submit return and pay tax)	FIAS (2007) (only cost to prepare, complete & submit return)
VAT	58 307	20 318	-	7 415	**2 828**	2 975
IT	47 427	15 822	-	6 066	2 564	1 175*
PAYE	30 708	16 533	-	6 809	3 677	2 880
Total all taxes	**136 442**	**52 672**	**24 158**	**20 290**	**9 069**	**7 030**

Reaching definitive conclusions from this comparative data is contentious for the following reasons:

1. The FIAS study used means and not 5% trimmed means to calculate their costs (but the means for the current study have been provided in the table above for comparative purposes).

2. The FIAS study included the value of time to prepare, complete and submit the tax returns. Whether or not this includes recording of information for tax (record-keeping) and/or the payment of the tax is uncertain. The value for the current study excluded the record-keeping time, but included the value of the time to pay any tax due. Furthermore, the values above for the current study excluded any time taken to deal with SARS. Some of this time could arguably relate to the completion and/or submission of the tax return and should thus have been allocated here, but this has not been done (and the amounts used in the current study may therefore be understated).

3. The FIAS study separated provisional tax from income tax and did not mention CGT separately. The current study did not mention provisional tax separately, but did separate CGT from income tax (current study amounts above exclude CGT values and are presumed to include provisional tax).

Bearing all of these differences in mind, and if the FIAS (2007) figures are increased for inflation (at an average rate of 6.55% from 2007 to 2011 (Statistics South Africa, 2008:1; 2011a:1 and 2011b:1)), it appears that there has been an overall increase in internal tax compliance costs as the retainer value of R24 158 (R31 136 adjusted for inflation) has almost doubled if compared to the current study (R52 672). To ensure that a reliable conclusion on the incidence of internal tax compliance costs can be obtained, it is suggested that the current values be used as a baseline for future studies so that meaningful comparisons can be made in future and that the exact areas that have caused the increase in internal tax compliance costs can be pinpointed. This will ensure focused reforms that should be able to address the root of the problem.

Tax compliance costs include not only the value of the time taken by the owners and employees of a business (internal costs) in complying with tax legislation, but also the money spent by these businesses on external service providers (for example accountants, bookkeepers, tax practitioners and lawyers) to assist with the business's tax compliance obligations. These costs will be considered next.

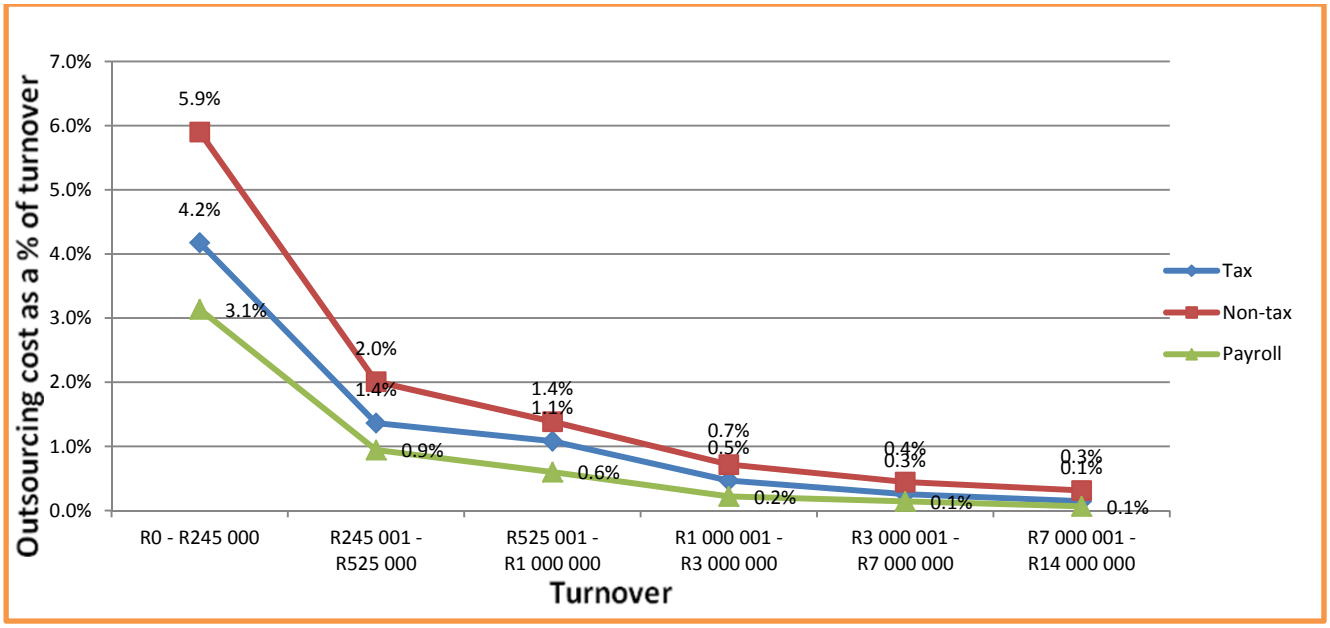
4.4 External costs of tax compliance

a) Survey results

It was found that more than three quarters (76%) of the respondents used the services of external service providers for tax, accounting and payroll services. These services are used the most by businesses in the professional, scientific and technical services sector and it appears that the use of these external services increases as the turnover of the business increases, no matter what form the small business is trading in. These external services are mainly in relation to tax services as opposed to non-tax services.

From a cost perspective, small businesses tend to spend on average R31 996 on outsourcing. If this is analysed further, it is found that small businesses spend on average R9 882 on external tax related services — which is less than the amount spent on non-tax services (R16 634) but more than the amount spent on external payroll services (R5 480). All these costs are regressive (as can be seen from Figure 4), with the smaller businesses spending disproportionately more than those with higher turnovers.

Figure 4: Cost of outsourcing (tax, non-tax and payroll activities) as a percentage of turnover



Almost half (48.9%) of the respondents perceived that there is a value in the information provided by their external service providers beyond the provision of tax services and tax advice, as they indicated that they would be prepared to pay for external accounting and payroll services even if South Africa were tax free. It was generally the smaller businesses (turnover of less than R1 million) that would probably not incur these expenses and therefore it appears as if they do not perceive as much value in the information provided by their external accounting and payroll service provider. Taxpayers who

currently pay for external non-tax and payroll related services would be more likely to spend on external services in a tax compliance free environment.

Assuming that there were no tax obligations, these respondents were prepared to pay R10 095 for external accounting services and R4 764 for external payroll services. Some (10.9%/19%) were even prepared to spend more than they were currently paying, implying that they derive more benefits from their relationship with their accountant/external payroll service provider than what they are currently paying for.

b) Comparison to other research

A comparison of the findings in respect of the use of external service providers for tax and accounting services in the FIAS (2007), the Govender and Citizen Surveys (2008) and the current study are displayed in Table 10 below. The average (mean) costs as well as the 5% trimmed mean for the current study have been provided because the other two studies did not use the 5% trimmed mean, but rather the ordinary mean (Kisunko, 2011:1).

Table 10: Three study comparison of annual costs of external tax and accounting related services

COST OF EXTERNAL SERVICE PROVIDERS / STUDY	Current study (mean)	Current study (5% trimmed mean)	FIAS* (2007)	Govender & Citizen Surveys* (2008)
Tax costs	R24 370	R9 882	R24 158	?
Accounting costs	R28 283	R16 634	R12 185	?
Total annual tax and accounting cost (excluding payroll costs)	**R52 653**	**R26 516**	**R36 343**	**R14 030**
Payroll costs	R9 267	R5 480	?	?
Total tax and accounting outsourcing cost	**R61 920**	**R31 996**	**R36 343**	**R14 030**

* These studies used an ordinary mean to calculate these costs rather than the 5% trimmed mean

If one first considers the costs of outsourcing tax functions (excluding payroll costs), using the **5% trimmed mean** as the comparative indicator, these have reduced since 2006 (when the FIAS study was conducted) and 2007 (when the Govender and Citizen Surveys study was undertaken) — even if inflation is taken into account and if it is assumed that the R14 030 was incurred exclusively for tax purposes, as 51% of the study's respondents believed this to be the case). This is a positive finding but the caveat here is that this is not necessarily the only cost incurred by the small business as other internal costs may need to be incurred to ensure its total tax compliance. Nevertheless, it is encouraging to see that tax outsourcing has not increased the compliance burden for small businesses. This, unfortunately, does not appear to be the case in respect of external accounting costs, which have increased (taking inflation into account).

4.5 The accounting/tax overlap

Previous research (Tran-Nam in Evans, Pope & Hasseldine, 2001:51, 55) suggests that accounting and tax compliance activities overlap. What this implies is that various accounting and record-keeping functions are performed both for tax and accounting purposes (that is, for instance producing managerial information and also information required for complying with tax legislation) — resulting in a joint purpose. Determining how these joint-purpose costs should be divided between these two functions is what causes the "*disentanglement*" dilemma in tax compliance cost research (Lignier, 2009c:124).

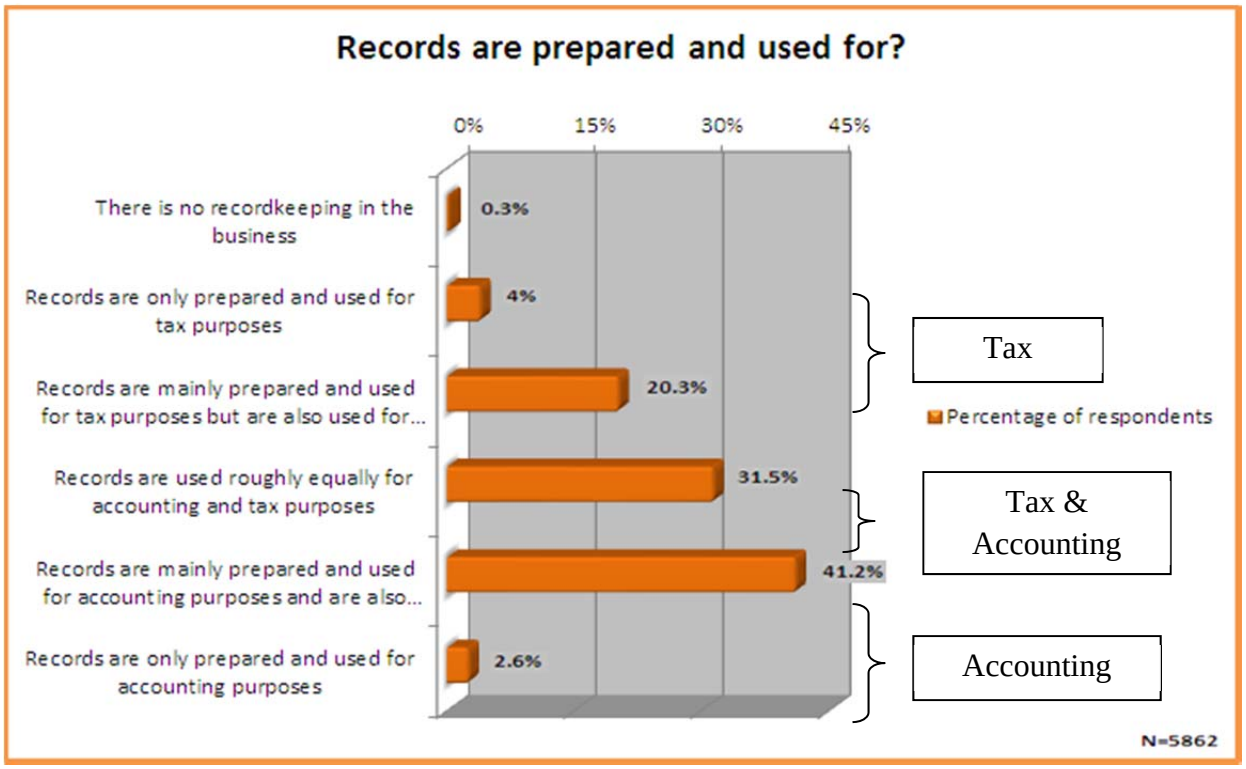
In an effort to disentangle the accounting and taxation costs from each other to ensure that only the tax compliance costs are taken into consideration in the tax compliance cost measurement criteria, the questionnaire prompted respondents to provide information regarding the type of accounting system used by their business, the reasons for keeping records and, ultimately, the time spent internally on accounting functions considered essential to the operation of the business.

4.5.1 Nature of the accounting system and reasons for keeping accounting records

The results indicated that just over three quarters of the respondents (77.7%) operated a computer based accounting system. Of those that didn't use a computer-based accounting system, 1.6% indicated that they used no accounting system at all. Of those that used no accounting system, 67.2% were businesses with a turnover of less than R1 million, with the majority of these having a turnover of between R0 and R254 000. This result is to be expected given the nature and size of the business, but what was surprising was that there were companies (12.5%) that have a turnover of between R3 million and R14 million, that also did not use any form of accounting system. The reasons for this and its effectiveness would need more investigation. Of the category of respondents that did not use a computerised accounting system, that is those that used a paper-based or manual system (11.9%), nearly half (48%) were also businesses with a turnover of less than R1 million. Respondents with a turnover of R1 million to R3 million were the ones that used a paper-based or manual system the most.

In a further endeavour to disentangle tax from accounting costs, the type of accounting system used (and for what it was used — tax versus accounting) and the owner's perception of the importance of accounting information and record-keeping (for tax and accounting purposes) were investigated. The results are set out in Figure 5 below.

Figure 5: Use of accounting records



Most of the respondents used computerised accounting systems with the micro businesses (turnover of R1 million or less) being the ones that tended not to use any accounting system at all. The reason for keeping records was mainly for accounting purposes, with just under a third of the respondents stating that the records were kept roughly equally for accounting and tax purposes. It was interesting to note that a fifth of the respondents kept records mainly for tax purposes (but they were also used for accounting purposes). Tax therefore featured as a very important reason for keeping accounting records (even more important than for reporting to owners, internal management, other regulatory bodies and lenders).

4.5.2 Time spent on various accounting activities

a) Survey results

In order to identify accounting activities that were not just carried out for tax purposes and that were beneficial to the business in some other way, question 14 in the questionnaire invited respondents to indicate the annual hours spent on specific core accounting activities. A similar methodology was used by Evans *et al* (1996:15), but two additional categories of activities were added to the list used in that study — those being investment planning unrelated to tax and budgeting and control. Venter and de Clercq (2007:147) found that small businesses in the three largest sectors in the South African economy (manufacturing, retail and business services) hardly use tax inputs, advice or information for management and planning purposes. It was therefore appropriate to see if perhaps the accounting information was used for investment planning and budgeting and control purposes as this could help resolve the disentanglement dilemma in respect of this activity. It was found (see Table 11) that the respondents spent on average 1 117 hours on core accounting activities, with most of this time spent processing customer invoices and cash received.

Table 11: Annual hours spent on different accounting activities by small businesses

ACCOUNTING ACTIVITY	Mean*(hours)	Median (hours)
Processing customer invoices and cash received	394.07	190.00
Following up debtors	105.74	30.00
Paying bills	100.29	48.00
Calculating and paying wages	62.46	30.00
Checking banking records against cash records	112.66	48.00
Stock-taking and stock control	44.20	5.00
Investment planning unrelated to tax	12.51	2.00
Budgeting and control	57.04	24.00
Other activities	0.76	0.00
Total all taxes	**1 117.34****	**610.00****

* These results were based on the 5% trimmed mean
** Not calculated as the sum of the above column but obtained from the 5% trimmed mean data set

The average of **1 117 hours** (median: 610 hours) spent on core accounting activities is nearly four and a half times as much as the time spent on tax activities (255 hours). These hours spent were disproportionately high for the "smaller" businesses.

b) Comparison to other research

The FinScope study (2010:26) revealed that the average small business owners spend 63.8 hours per week working on their businesses. If this is grossed up to an annual figure (using 48 working weeks as a basis), then small business owners spend on average 3 062 hours per year working on their businesses. When this is then compared to the hours obtained in the current study of 1 372 — tax activities: 255 hours, and accounting activities: 1 117 hours — it is evident that the times obtained in this study, although just less than half of the FinScope study time, appear to be reasonable — if not underestimated. Unfortunately no other benchmarks are available against which these results can be tested, and these times are therefore the best available to be used as a baseline for future studies in this area.

4.5.3 Valuation of accounting time

If the same valuation used for tax related activities is applied to the hours spent above, the costs involved in ensuring that all the internal accounting activities of the small business are performed, amount to the following:

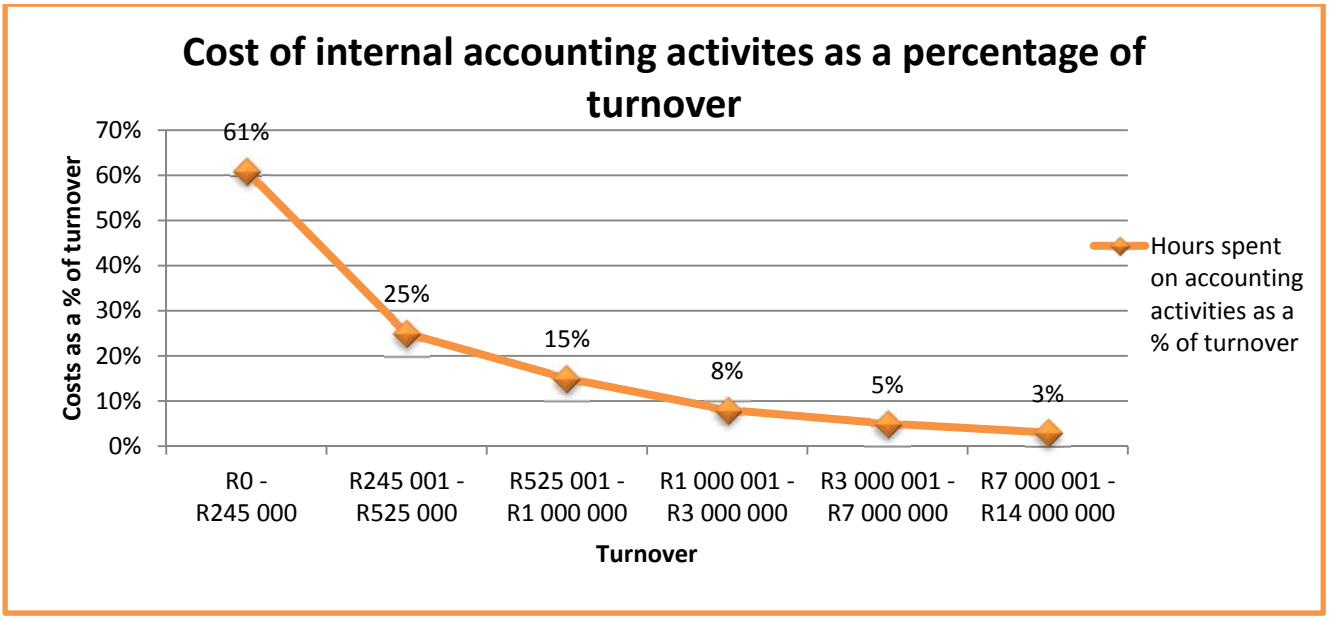
Table 12: Annual internal cost of time spent by different people on accounting activities

ANALYSIS OF COSTS INCURRED ON ACCOUNTING ACTIVITIES PERFORMED BY:	Mean* (R)	Median (R)
Owners, partners, directors and trustees	147 739.61	80 656.88
Employees	68 195.08	37 230.39
Unpaid friends & relatives	5 656.73	3 088.23
Total all persons in business	**221 591.43**	**120 975.51**

* These results were based on the 5% trimmed mean

The value of time spent on accounting activities is **R221 591** (median: R120 976) per year. It was also found that, as the business grows, so do the accounting costs, but that these costs are nevertheless regressive as is shown below.

Figure 6: Annual cost of internal accounting activities as a percentage of turnover



When comparing the total costs of R221 591 (median: R120 976) spent internally on accounting activities with the costs of tax activities (excluding the turnover tax) which amount to R53 356 (median R20 491), it is clear that performing the accounting activities of the business costs just over four times as much as the tax compliance activities. Thus more time and costs are spent on accounting activities than on tax compliance activities.

Having established the internal and external tax compliance costs incurred by small businesses, it was considered appropriate to establish if the respondents thought that there were any benefits that arose from complying with tax legislation. The next section thus focuses on the respondents' views of tax compliance benefits (if any).

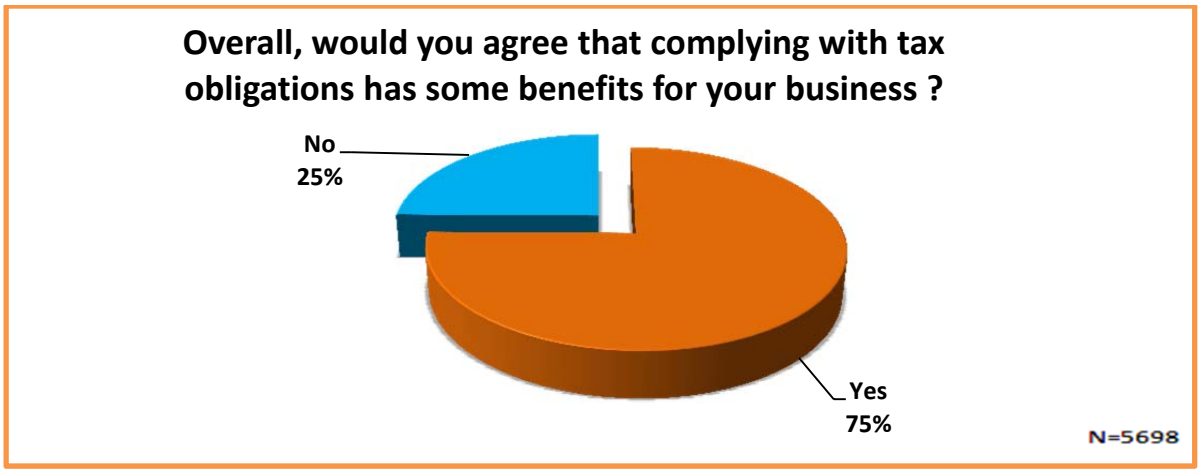
4.6 Tax compliance benefits

The thought that tax compliance activities give rise not only to costs, but also to benefits, first came about in the early 1980's (Sandford, Godwin, Hardwick & Butterworth, 1981), but this has never been investigated from a South African perspective.

4.6.1 Do tax compliance benefits exist?

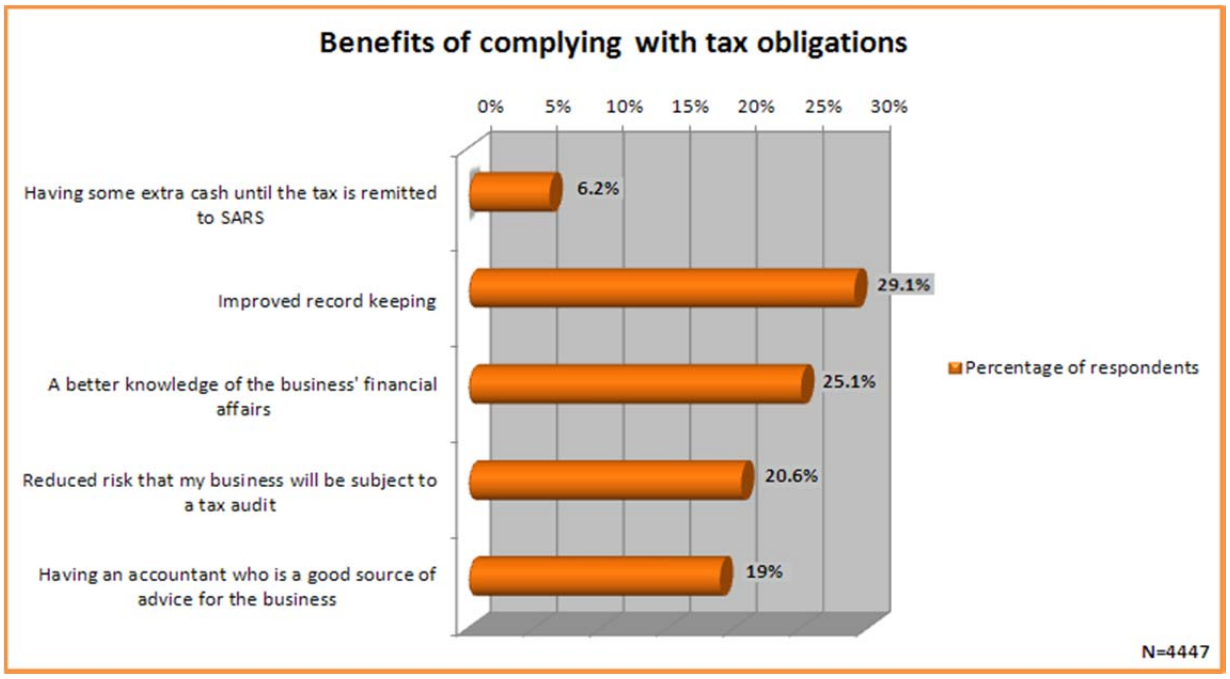
This research, as is shown in Figure 7 below, established for the first time in South Africa that there is a perception that tax compliance benefits exist.

Figure 7: Does complying with tax obligations have benefits for the business?



This existence was acknowledged by three quarters of the small businesses irrespective of their size. The major perceived benefit of compliance with tax obligations (especially among the smaller businesses) is an improvement in record-keeping by the business, closely followed by a better knowledge of the business's financial affairs (see Figure 8 below). A reduced risk of having an audit and having an accountant who is a good source of advice for the business are also perceived as benefits, but not as great as the abovementioned benefits. The benefit that is perceived as the least significant is having some extra cash until the tax is submitted to SARS.

Figure 8: Benefits of complying with tax obligations



It has been argued that the requirement to keep tax records also has its benefits for the small business (Lignier, 2009a:106). Respondents were provided with a list of five statements regarding the benefits of keeping tax records and their perceptions about these benefits (based on a five point Likert scale) were sought. These perceived benefits and the responses thereto are set out below.

Table 13: Perceptions about benefits of tax compliance

	Agree or strongly agree		Disagree or strongly disagree		Unsure or not applicable	
	Count	%	Count	%	Count	%
Improves record keeping	4 329	76.2	951	16.7	404	7.1
Improves maintenance of accurate records	4 434	78	893	15.7	358	6.3
Improves knowledge of financial position of the business	3 659	64.7	1 373	24.3	619	10.9
Improves knowledge of profitability	3 567	63.1	1 422	25.2	663	11.7
VAT compliance obligations provide up to date information	3 532	62.5	1 417	25.1	699	12.3

The greatest perceived benefit was having more accurate records as a result of tax compliance obligations.

To determine if there was any perceived benefit in having an external advisor beyond the value of the tax information and services provided by their accountant, respondents were asked whether they would be prepared to pay for these external services if South Africa were tax free. Table 14 shows

that 39% of the respondents would still be prepared to pay for external advisors for accounting service costs even if there were no tax obligations.

Table 14: Analysis of respondents' use of external service providers

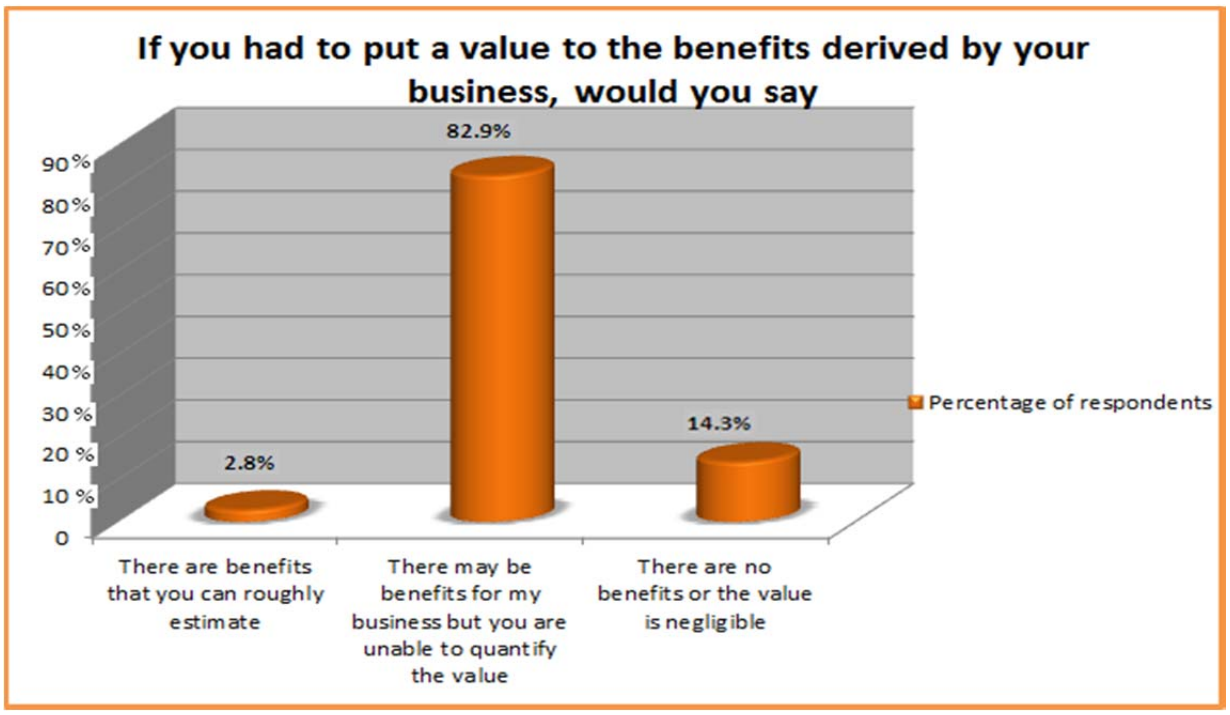
	Number	Percentage
Respondents currently paying for external services (tax & non-tax)	4 463	76.1%
Respondents currently paying for non-tax services	2 987	50.9%
Respondents who would pay for external services even if there were no tax	2 312	39.4%
Respondents who would spend **more** than the current amount they are spending on non-tax services	641	10.9%
Respondents who would spend the **same amount** as the current amount they are spending on non-tax services	385	6.6%
Respondents who would spend **less** than the current amount they are spending on non-tax services	1 128	19.2%
Total Number of respondents	5 862	-

An interesting finding is that just over one tenth of those who actually paid for non-tax services would be willing to pay more than they are currently paying even if South Africa were tax free. This is a possible indication that these taxpayers may be deriving more benefits from the relationship with their accountant than what they are paying for; a conclusion also reached by Lignier (2008:370).

4.6.2 What is the value of tax compliance benefits?

Various methods have been employed to measure tax compliance benefits (Sandford *et al.* 1981:94; the National Audit Office (UK), 1994:20; Lignier, 2006:55 and Lignier 2009c:124). These methods all have their limitations, and taking these limitations into consideration as well as the financial and time constraints present during this research, the approach followed in this study was a subjective approach as used by Lignier (2006:55). Figure 9 below shows the results obtained from the respondents when they were asked if there were any benefits to complying with tax obligations and whether they could possibly be measured.

Figure 9: Valuation of tax compliance benefits by respondents



Despite the fact that, for the first time in South Africa, the establishment of the perception that tax compliance benefits exist was established, 82.9% of the respondents indicated that they could not accurately quantify these benefits. The research was thus unable to accurately measure the tax compliance benefits and future research in this area, using a more sophisticated approach as suggested by Lignier (2009c:38), is proposed.

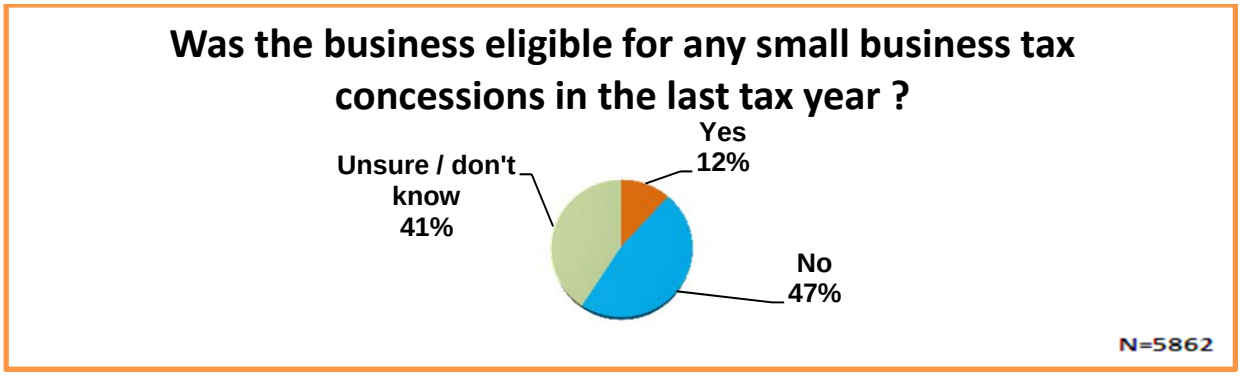
4.7 Small business tax concessions (SBTCs)

Small businesses are arguably the most dynamic sector of the economy, but they are much more vulnerable than any other sector to the compliance burden created by the tax law and its complexity (OEDC, 2010:5). The South African government, have made endeavours to reduce this compliance burden by introducing various strategies and measures (tax concessions) to achieve this reduction in the tax compliance burden (SARS, 2011c:30-32).

In view of these developments, it was believed that there would be value in researching the extent to which SBTCs achieved their objective of reducing the tax compliance burden in South Africa. In order to do this, the take-up (eligibility) of the specific tax concessions by small businesses in South Africa and the reasons why they were or were not used by these businesses were investigated in this study. The small businesses' perceptions of the concessions with regard to their usefulness and level of complexity were also considered.

What was found (refer to Figure 10) was that almost half (47%) of the respondents indicated that they were not eligible for the SBTCs, 41% indicated that they were "not sure" if they were eligible, leaving only 12% stating that they were in fact eligible.

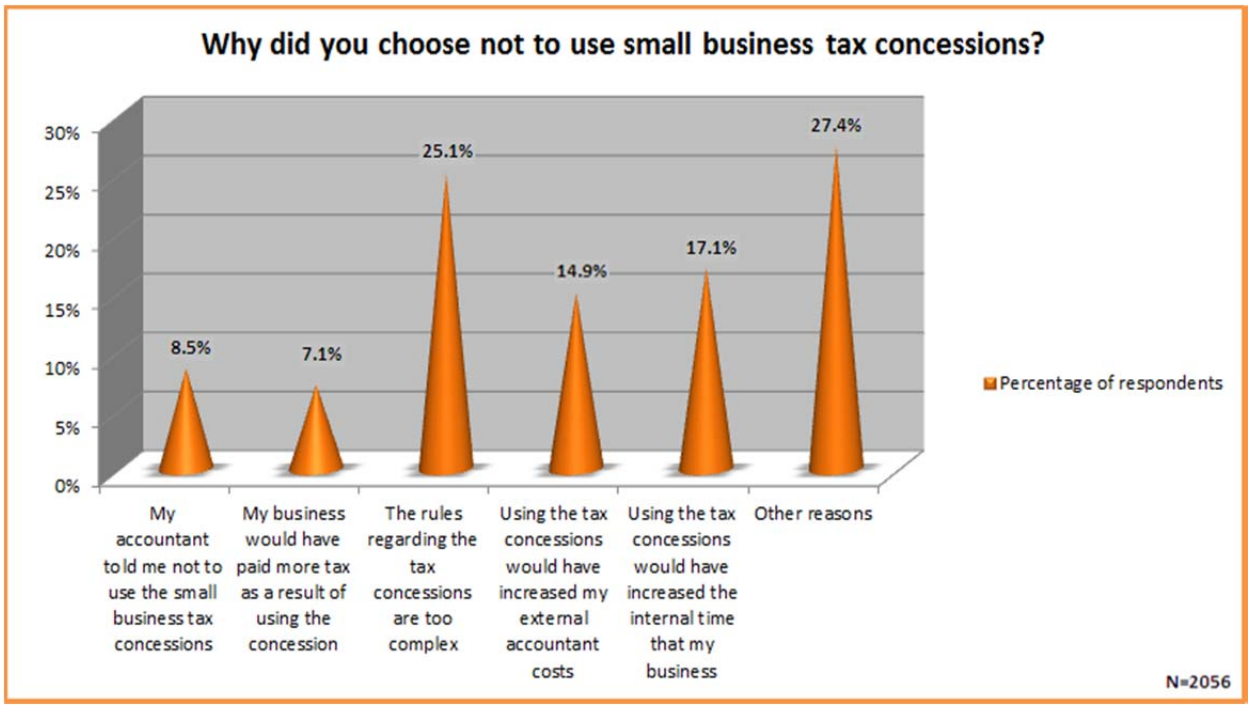
Figure 10: Eligibility of small business tax concessions



This finding is an indication that the eligibility criteria for the SBTCs could be too restrictive (confirmed by certain of the respondents' views provided in the survey) or that some small businesses or their external service providers are ignorant, not updated or not knowledgeable of the SBTCs, or that the marketing of these concessions has not been adequate or appropriately targeted. Upon further analysis of the data, it was found that there existed some confusion about the eligibility and use of these concessions (especially in respect of the turnover tax system).

Of those small businesses that were eligible for the SBTCs, 68% actually used the SBTCs, indicating good adoption of the concessions once the businesses are aware of them. Of those that did not use the concession despite being eligible for them, it was found that the main reason for not using the SBTCs was because the rules of the concessions were too complex, followed by the increase in internal or external time spent on tax related activities.

Figure 11: Reasons for not using small business tax concessions



The SBTCs used the most, are the SBC concession and the turnover tax system. The majority of the respondents felt unsure about the usefulness (Table 15) and complexity (Table 16) of these SBTCs

and that in itself indicates that more research is needed into these concessions — because the very reason why they were implemented was to assist the small business community with their tax compliance burden, yet this appears not to have been successful.

Table 15: Perceptions about usefulness of SBTC

Concessions	Moderately or very useful	Not useful or not very useful	Unsure Not Applicable Not relevant
Small Business Corporation	10.10%	7.50%	82.40%
	(488)	(360)	(3 965)
Small Retailers VAT Package	6.30%	9.80%	83.90%
	(305)	(470)	(4 037)
CGT concession	7.10%	7.90%	85.00%
	(338)	(378)	(4 067)
Submission of VAT returns four-monthly	15.20%	11.50%	73.30%
	(735)	(554)	(3 542)
Turnover Tax System	8.70%	12.10%	79.30%
	(418)	(583)	(3 822)

Table 16 : Perceptions about complexity of SBTC

Concessions	Not complex or not very complex	Moderately to very complex	Unsure Not Applicable Not relevant
Small Business Corporation	7.10%	11.60%	81.20%
	(347)	(565)	(3 945)
Small Retailers VAT Package	5.60%	9.90%	84.50%
	(269)	(478)	(4 082)
CGT concession	4.30%	10.60%	85.00%
	(209)	(511)	(4 090)
Submission of VAT returns four-monthly	13.50%	10.10%	76.30%
	(655)	(490)	(3 693)
Turnover Tax System	8.40%	10.80%	80.70%
	(406)	(524)	(3 903)

All of the respondents, irrespective of their eligibility for or use of the SBTCs were asked their overall general attitude towards the SBTCs and if the SBTCs were a waste of time for everybody and whether small businesses would be better off with a lower tax rate and a simpler tax system. The findings are set out in Table 17 below.

Table 17: Attitudes of respondents towards SBTC in general

Statement	Agree or strongly agree	Disagree or strongly disagree	Unsure Not applicable Not relevant
SBTC saved my business some tax Rands	14.80%	13.40%	71.80%
	(715)	(644)	(3 463)
SBTC are so complex that it is hardly worth the effort	29.00%	12.10%	58.90%
	(1 400)	(585)	(2 844)
I was well advised by my accountant regarding the benefits of SBTC for my business	24.90%	14.70%	60.30%
	(1 198)	(708)	(2 901)
Accountants have a self-interest in pushing the use of SBTC	7.90%	22.00%	70.10%
	(379)	(1 049)	(3 345)
SBTC are a waste of time, we would be better off with lower taxes and a simpler tax regime instead	40.80%	10.40%	48.70%
	(1 992)	(510)	(2 380)

A preference for lower tax rates and a simpler tax system over the current SBTCs is what 40.8% of the respondents indicated was their attitude towards SBTCs. The large "unsure" and "not relevant/applicable" categories indicate either an unawareness or lack of understanding of the SBTCs. Based on these views, it may be concluded that further research into the SBTC's role in reducing the compliance burden, and perhaps the effectiveness of the marketing campaign of SARS, is warranted.

5. CONCLUSION

Small businesses are critical in expanding the economy, because as they grow they become the employers of the future. Addressing the tax concerns of this sector of the economy should be a priority of the South African government. This study was designed as a large-scale survey with the objective of collecting primary data that would allow an evaluation of the impact of the tax system on small businesses' tax compliance costs. While evaluating and measuring the tax compliance costs incurred by small businesses, the study sought to differentiate tax compliance activities from core accounting activities, and to determine whether there were any managerial benefits or other tax compliance benefits that could offset the gross compliance costs identified. An attempt was also made to establish whether or not the SBTCs were effective in relieving some of the effects of the tax compliance burden on small businesses.

The findings of the survey indicate that there is possibly a slight bias towards the larger end of the small business sector, but that comparison with previous tax compliance cost studies was nevertheless justified. It was estimated that it took small businesses (not on the turnover tax system) an average of 255 hours per year to comply with tax legislation. Turnover tax respondents spent just under two thirds of the time (155 hours) to comply with their tax obligations compared to similar businesses not registered for this tax.

This study confirmed that gross tax compliance costs are regressive, and overall it cost small businesses R53 356.81 per annum on internal tax compliance activities and R9 982 to obtain external tax compliance assistance. It appears as if the internal costs have increased (for certain tax compliance activities) if compared to studies performed four to five years ago, although exact comparisons were difficult. The amounts paid for external tax services decreased when compared to previous studies performed four to five years ago, but the external non-tax services showed a noticeable increase.

Compliance with VAT represented around 38% of internal time costs, thus confirming previous research that compliance with this type of tax is very costly for the taxpayer. The most time-consuming activity for all taxes was recording information (representing 52% of total internal time).

The mean gross tax compliance cost for small businesses is R63 328 per year (R53 356 internal plus R9 882 external tax service provider costs). Net tax compliance costs could not be calculated as the value of the managerial benefits could not be quantified. Notwithstanding this, it was confirmed for the first time in South Africa that a large majority (75%) of the respondents perceived there to be benefits to tax compliance. In particular, they believed that keeping tax records was an incentive to keep better and more accurate records and that this, in turn, led to a better knowledge about the financial position and profitability of their businesses.

The findings regarding the effectiveness of small business tax concessions revealed that almost half of respondents (47%) in this survey were not eligible for any SBTCs, with a further 41% indicating that they were “unsure” if they were eligible. There is an indication that taxpayers generally did not understand SBTCs and that this is an obstacle to their adoption. The overall perception towards SBTCs is that they are more complex than useful and not worth the effort. Further empirical research in this area is clearly warranted.

Despite the government’s commendable efforts in efficiency and compliance cost reduction — South Africa’s tax system is ranked number one in the BRICS (Brazil, Russia, India, China and South Africa) economies for its efficiency and in easing the compliance burden for taxpayers (PwC, 2011:1) — the findings of this study tend to confirm the sentiments of Qabaka that the South African small business population is still in need of tax reform that will assist in minimising its tax compliance costs so that it can concentrate on one of the country’s primary needs — job creation. A truly simplified tax system available to all small businesses is regarded as desirable by the respondents. Research into the specifics of this system (or adjustments to the current concessions) is therefore considered a priority for a sector that is found in every inch of our economy.

6. FUTURE RESEARCH

From a size perspective, the lower end of the small business sector (those with a turnover of R1 million or less, or with less than five employees) also known as “microbusinesses”, should also be investigated in more detail, especially those without internet access. This additional research is necessitated as the results of this survey were predominantly received from the “larger” small businesses. Some doubt was cast on the turnover tax respondents as there appeared to be some contradicting information obtained from these respondents with regard to their eligibility. This additional research is especially important as it is possible that these micro businesses could have adopted the turnover tax system, and their views on this system’s ability to reduce their compliance costs would be most valuable in providing further insight into the effectiveness of this tax regime. Should they not have adopted this system, their reasons for not doing so would also provide insight into this tax system and its effectiveness.

7. ACKNOWLEDGEMENTS

Special thanks must be extended to Professor Chris Evans for the invitation to participate in the international comparative research, SARS (particularly Ms S Murugan), for making this research possible and the World Bank (Ms J Coolidge and Mr G Kisunko) for their valuable input and assistance with the research. Sincere appreciation is also given to University of Pretoria's Statistical Department (Dr L Fletcher and especially Mrs J Jordaan) for their assistance with the statistical analysis for this research.

ANNEXURE A

SMALL BUSINESS TAX CONCESSIONS IN SOUTH AFRICA

Concessions (since 2001) introduced by the National Treasury and/or SARS that specifically relate to small businesses are as follows:

1. The introduction in 2001 of section 12E of the Income Tax Act (South Africa, 1962), being the **Small Business Corporation (SBC)** regime.
2. The **Small Retailers VAT Package** (SRVP) which was introduced in 2004 to assist small businesses in VAT record-keeping and calculation (deleted from 1 March 2010) (SARS, 2011a:1).
3. The **capital gains tax relief** of R900 000 (R750 000 before 1 March 2011) for the sale of small business assets introduced into the Income Tax Act (1962) in 2001 (South Africa, 1962: Eighth Schedule paragraph 57).
4. **Filing of VAT returns every four months** (instead of every two months) for small businesses with taxable supplies of less than R1.5 million (R1.2 million before 1 March 2008) introduced from 1 August 2005 (South Africa, 1991:section 27&4B).
5. The **exemption**, from 1 August 2005, from having to pay the **skills development levy** (SDL) for employers with an annual payroll of R500 000 or less per annum (South Africa, 1999: section 4(b)).
6. The introduction of the **turnover tax** for micro businesses from 1 March 2009 (this coincided with the increase in the VAT threshold for registration from R300 000 to R1 million) (South Africa, 1962: Sixth Schedule).
7. The ability, from 1 March 2009, for businesses with a taxable income of R1 million or less to base the **second provisional tax payment** on either the "basic amount" or an estimate of the actual taxable income for the year of assessment (rather than just an estimate as is required by businesses with taxable income of more than R1 million which might require additional time and calculations) without having to incur a 20% underestimate penalty. The "basic amount" is essentially the taxable income for the last year assessed. This is only valid as long as the estimate used is at least equal to 90% of the actual final taxable income (South Africa, 1962: Fourth Schedule).
8. The payment of a reduced application fee (R2 500 rather than R10 000) by an SME (as defined in section 12E(a)(i)) for a **binding private ruling** application which includes 8 hours of reviewing free of charge (which is not available to other applicants either) (SARS, 2011d:5).

The benefits for a small business of being eligible for each of these small business tax concessions are summarised below.

SBC benefits

Should the business entity qualify as a SBC, the tax-related benefits that it is entitled to are as follows:

- Reduced taxation payable as it is calculated on a sliding scale with a maximum rate of tax (currently 28%) applying only on taxable income in excess of R300 000, compared to a normal company, where this rate is levied from the first R1 of taxable income.
- An accelerated (100%) write-off in comparison with the normal rules of the cost of manufacturing assets (plant and machinery) in the year the asset is brought into use for the first time.
- An accelerated write-off allowance in comparison with the normal rules for non-manufacturing assets (50% in the first year, 30% in the second year, and 20% in the third year) (South Africa, 1962).

SRVP benefits

A Small Retailers VAT Package was introduced by SARS in 2004 (SARS, 2005:1). This package provided an alternative method for qualifying small retail businesses to determine the value of the total taxable supplies — that is, it assisted in determining what proportion of the business' sales were taxable at the standard or zero rate. It was aimed at those small retail businesses that found it difficult to issue tax invoices for a large number of supplies made direct to the public. To qualify for this package, the business had to apply to SARS and had to sell standard, as well as zero-rated foodstuffs from the same business premises and had to make taxable supplies (excluding VAT) of less than R1 million in any 12 month period and did not have adequate point of sale equipment (SARS, 2005:1-3).

The benefits of being registered for the SRVP was that the business was not required to purchase specialised equipment to record all of its standard and zero-rated sales and would only be required to retain limited records for VAT purposes (SARS, 2005:2). In addition, SARS would have supplied the approved small retailer with pre-printed booklets to assist it in determining its daily gross takings and zero-rated sales (SARS, 2005:2).

Capital gains tax benefits

Persons who operate small businesses as defined in paragraph 57 of the Eighth Schedule to the Income Tax Act (South Africa, 1962) are entitled to exclude R900 000 (R750 000 before 1 March 2011) of the capital gain made on the disposal of active business assets (subject to certain conditions) when they attain the age of 55 years, or where the disposal is in consequence of ill-health, other infirmity, superannuation or death.

VAT benefits

Small businesses with taxable supplies not exceeding R1 000 000 are not required to register for this tax and are therefore spared the burden of administering this tax. These businesses may, however, apply (in certain cases) for voluntary registration, which enables them to benefit from input tax credits on certain expenses, but also then imposes upon them the administrative burden of this tax. Certain small businesses are permitted to submit VAT returns every four months, instead of the normal monthly or two-monthly requirement (South Africa, 1991: section 27) which could assist in reducing their administrative burden. In addition, small businesses with taxable supplies of less than R2.5 million per year may elect to pay VAT on the cash basis, rather than the accrual basis (South Africa, 1991: section 15) which again might assist small businesses with their cash flow concerns.

SDL benefits

No SDL needs to be paid by businesses whose total remuneration subject to SDL paid/payable to all its employees does not exceed R500 000.

Turnover tax system

In essence, the benefits of being registered as a microbusiness under the turnover tax system is that these entities are subject to a low rate of tax on turnover without having to keep a record of their expenses and deductions (National Treasury, 2007:39-40). Minimal record-keeping is, however, required – micro businesses will need to retain records of the amounts received and dividends declared during the year of assessment, as well as proof of each asset and liability that has a value of more than R10 000 at the end of the year of assessment (SARS, 2011c:12).

Provisional tax benefits

The benefit available for businesses with a taxable income for the tax year that is R1 million or less, is that it may base its estimate of taxable income for purposes of calculating its second provisional tax payment on the lesser of the basic amount or 90% of its actual taxable income, without incurring any penalties for under-estimating its taxable income. A business that has taxable income of more than R1 million is not permitted to use the basic amount without the risk of incurring under-estimation additional tax/penalties.

Binding private ruling benefits

A small business has to pay only a R2 500 as opposed to a R10 000 application fee for a binding private ruling.

General

The exemption from SDL and relief on under-estimate penalties for provisional tax, were not separately considered in the survey. This is perhaps a flaw in the questionnaire, however, although the SDL is a separate tax, it is contained on the same return, almost calculated in the same way and is paid for in the same manner as employees' tax (PAYE) and is only payable at a rate of 1% (on a very similar amount used for PAYE purposes) and was thus not considered of great importance to this research.

In respect of the provisional tax, it must be noted that this is not a separate tax, but rather a system that makes taxpayers provide for their final tax liability by paying at least two amounts in a tax year. Thus it was inferred in the questionnaire that provisional tax was included in the income tax questions, but this fact could have been made clearer to the respondents and specific reference (in the small business tax concessions questions) could have been made to the provision of the alternative (simplified) manner in which the second provisional tax payment is calculated for businesses with a turnover of R1 million or less. This benefit should be incorporated into future studies of this nature.

The reduction in the binding private ruling fee is not a major benefit that is used frequently by small businesses, and was thus not considered important for the purposes of this study.

LIST OF REFERENCES

Abrie, W. & Doussy, E. 2006. Tax compliance obstacles encountered by small and medium enterprises in South Africa. *Meditari: Research Journal of School of Accounting Sciences*, 14(1):1-13. [Online] Available from: www.meditari.org.za.innopac.up.ac.za/docs/2006v1/Abrie%20&%20Doussy%20_1_%20-%20Meditari%202006%20Vol%2014%20No%201.pdf [Downloaded: 2011-06-29].

Accountants on Call. 2010. *Salary Survey 2010 - Accounting and Finance.* [Online] Available from: http://www.accountantsoncall.co.za/downloads/clients/Salary%20Survey%20Accounting%20&%20Finance%202010.pdf [Downloaded: 2011-08-22].

African Response. 2006. *FinScope Small Business Survey Report Gauteng 2006.* [Online] Available from: http://www.finscope.co.za/sme.html [Accessed: 2008-08-20].

Allers, M. 1994.*Administrative and compliance Costs of taxation and public transfers in the Netherlands*. Groningen: Wolters-Noordhoff.

Chartered Institute of Management Accountants. 2010. *CIMA South Africa part qualified salary survey 2010.* [Online] Available from: http://www.cimaglobal.com/Documents/Jobs-docs/Salary_Survey/South%20Africa_pq%20salary%20survey%202010.pdf [Downloaded: 2011-08-22].

Colmar Brunton Social Research. 2005. *Measuring the tax compliance costs of small and medium-sized businesses: a benchmark survey. Inland Revenue New Zealand.* [Online] Available from: http://www.msi-anz.net/files/docs/smecompliancecosts.pdf [Downloaded: 2011-09-24].

Cook, C., Heath, F. & Thompson, R. 2000. A meta-analysis of response rated in web- or internet-based surveys. *Educational and Psychological Measurement*, 60(6):821-836. [Online] Available from: http://dx.doi.org/ 10.1177/00131640021970934 [Accessed: 2011-08-19].

Coolidge, J., Ilic, D. & Kisunko, G. 2009. *Small Businesses in South Africa: who outsources tax compliance work and why?* Policy Research Working Paper 4873, The World Bank, Investment Climate Department, Regulatory Simplification Division, [Online] Available from: http://www.wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2009/03/23/000158349_20090323132017/Rendered/PDF/WPS4873.pdf [Accessed: 2010-10-30].

Cooper, D.R. & Schindler, P.S. 2008. *Business research methods*. 10th ed. Singapore: McGraw-Hill/Irwin.

Dilman, D.A., Phelps, G., Tortora, R., Swift, K., Kohrell, J., Berck, J. & Messer, B.L. 2009. Response rate and measurement differences in mixed-mode surveys using mail, telephone, interactive voice response (IVR) and the Internet. *Social Science Research*, 38(1):1-18. [Online] Available from: Science Direct: http://dx.doi.org/ 0.1016/j.ssresearch.2008.03.007 [Accessed: 2011-08-19].

Evans, C., Ritchie, K., Tran-Nam, B. & Walpole, M. 1996. *A report into the incremental costs of taxpayer compliance: a report prepared for the Revenue Analysis Branch of the Australian Tax Office.* Australian Govt. Pub. Service: Canberra.

Evans, C., Ritchie, K., Tran-Nam, B. & Walpole, M. 1997. *A report into taxpayer costs of compliance.* Australian Govt. Pub. Service: Canberra.

Evans, C., Pope, J. & Hasseldine, J. 2001. *Tax compliance costs : a Festschrift for Cedric Sandford.* St Leonards, NSW, Australia: Prospect Media.

FIAS. 2007. South Africa: *tax compliance burden for small businesses: a survey of tax practitioners.* [Online] Available from: http://www.ifc.org/ifcext/fias.nsf/AttachmentsByTitle/FIAS_tax_practioners_report_SA/$FILE/FIAS_Tax_Practitioners_Report_-_FINAL_29+Aug.pdf [Downloaded: 2011-11-10].

Field, A. 2009. *Discovering statistics using SPSS.* 3rd ed. Dubai: Oriental Press.

FinScope. 2010. *FinScope South Africa Small Business Survey 2010*. [Online] Available from: http://www.finscope.co.za/new/pages/Initiatives/SmallBusiness.aspx?randomID=bfecc2e2-f62d-4a1b-846f-eff257aea785&linkPath=3&lID=3_3 [Downloaded: 2011-05-26].

Foreign Investment Advisory Service of the World Bank Group — see FIAS.

Gordhan, P. 2011. *2011 Budget Speech.* [Online] Available from: http://www.sars.gov.za/home.asp?pid=66066 [Downloaded: 2011-08-02].

Govender, R. & Citizen Surveys. 2008. *Formal SMME tax compliance survey report.* [Online] Available from: http://www.ifc.org/ifcext/fias.nsf/AttachmentsByTitle/SouthAfricaFormalSMMETaxComplianceReport2008/$FILE/Formal+SMME+Tax+Compliance+Report1.pdf. [Downloaded: 2010-02-16].

Hassan, M. 2011. *Top five budget tips… for the Minister — Press release Monday 21 February 2011.* [Online] Available from: https://www.saica.co.za/News/NewsArticlesandPressmediareleases/tabid/695/itemid/2837/language/en-ZA/Default.aspx [Accessed: 2011-10-12].

Inland Revenue (New Zealand). 2010a. *SME tax compliance costs 2009: Evaluation Report 1.* [Online] Available from: http://www.ird.govt.nz/aboutir/reports/research/sme-compliance-eval-report-1/ [Downloaded: 2011-09-02].

Inland Revenue (New Zealand). 2010b. *SME tax compliance costs 2009: KiwiSaver compliance costs Evaluation Report 3.* [Online] Available from: http://www.ird.govt.nz/resources/7/d/7d0b3c0044e1509ba32ea793e2576389/sme-tax-compliance-costs-eval-report-3.pdf [Downloaded: 2011-09-02].

Kisunko, G. (gkisunko@worldbank.org). 2011. Re: World Bank Tax Practitioner Report. E-mail to:] Smulders, S.A. (sharon.smulders@up.ac.za) 5 October 2011.

Lignier, P. 2006. The costs benefits of complying with the tax system and their impact on the financial management of the small firm. *Journal of the Australasian Tax Teachers Association,* 2(1):121-143. [Online] Available from:

http://eprints.qut.edu.au/13258/1/13258.pdf [Downloaded: 2011-09-03].

Lignier, P. 2008. The managerial benefits of tax compliance: an empirical study of small businesses in regional Australia. Paper Presented at the 8th International Tax Administration Conference, ATAX, University of New South Wales, Sydney.

Lignier, P. 2009a. The managerial benefits of tax compliance: perception by small business taxpayers. *eJournal of Tax Research*, 7(2):106-133. [Online] Available from: http://0-www.atax.unsw.edu.au.innopac.up.ac.za/ejtr//issues/previous/paper1_v7n2.pdf [Accessed: 2011-08-19].

Lignier, P. 2009b. *Are managerial benefits making tax compliance costs more sustainable for small businesses: an investigation of managerial benefit perception by small business taxpayers.* Paper presented at the Australasian Tax Teachers Conference (ATTA), University of Canterbury, Christchurch, 19 — 21 January.

Lignier, P. 2009c. Measuring the managerial benefits of tax compliance: a fresh approach. *Australian Tax Forum*, 24(2):117-150. [Online] Available from: http://0-eprints.qut.edu.au.innopac.up.ac.za/28033/1/c28033a.pdf [Accessed: 2011-08-19].

Lignier, P. (p.lignier@griffiths.edu.au) 2011. Re: Quick question. [E-mail to:] Smulders, S.A. (sharon.smulders@up.ac.za) 25 November 2011.

Macdonald & Company. 2011. *South Africa rewards and attitudes survey 2011*. [Online] Available from: http://www.macdonaldandcompany.com/document_uploaded/SA_SURVEY_2011.PDF [Downloaded: 2011-08-22].

Manuel, T. 2005. *2005 Budget speech - background briefing for journalists: empowering small businesses.* [Online] Available from: http://www.sars.gov.za/media/media budget 2005 [Accessed: 2011-02-15].

Meintjes, W. (WMeintjes@sars.gov.za) 2011. Update: 13 May 2011. [E-mail to:] Smulders, S.A. (sharon.smulders@up.ac.za) 13 May 2011.

Murugan, S. (smurugan@sars.gov.za) 2011a. Confirmation of numbers. [E-mail to:] Smulders, S.A. (sharon.smulders@up.ac.za) 1 June 2011.

Murugan, S. (smurugan@sars.gov.za) 2011b. Quick questions — population and response rate clarification. E-Mail Addresses. [E-mail to:] Smulders, S.A. (sharon.smulders@up.ac.za) 13 September 2011.

National Audit Office (UK). 1994. *HM customs and excise: cost to business of complying with VAT requirements*. [Online] Available from: http://www.official-documents.gov.uk/document/hc9394/hc03/0319/0319.pdf [Downloaded: 2011-11-10].

National Treasury. 2011. *Budget review 2011*. [Online] Available from:http://www.sars.gov.za/home.asp?pid=66388 [Accessed: 2011-08-04].

OECD. 2010. *Auditing small and medium sized enterprises 7. Importance of SMEs.* Ghana: Centre for Tax Policy and Administration.

Pope, J. 1993. The compliance costs of taxation in Australia and tax simplification: the issues. *Australian Journal of Management,* 18(1) 18(1):69-90. [Online] Available from: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.197.2791&rep=rep1&type=pdf [Downloaded: 2011-11-10].

Pope, J. 2001. Estimating and alleviating the goods and services tax compliance cost burden upon small businesses. *Revenue Law journal,* 11(1):1-18. [Online] Available from: http://epublications.bond.edu.au/cgi/viewcontent.cgi?article=1110&context=rlj [Downloaded: 2011-03-18].

PricewaterhouseCoopers (PwC) & IFC. 2011. *Paying taxes 2011: the global picture.* [Online] Available from: http://www.doingbusiness.org/~/media/FPDKM/Doing%20Business/Documents/Special-Reports/Paying-Taxes-2011.pdf [Downloaded: 2011-06-29].

PwC. 2011. *Paying taxes 2012: the global picture.* [Online] Available from: http://www.pwc.com/gx/en/paying-taxes/index.jhtml [Accessed: 2011-11-22].

Qabaka, V. 2011. Does our current tax system really support small business? *TaxTalk,* May/June:14-17.

Rametse, N. 2010. *An international perspective on small business implementation costs of a new tax and managerial benefits* derived in Njiro, E. and Mazwai, T. (ed.) *Transforming Black Townships into Economic Powerhouses, Proceedings of the 2010 Soweto International Conference on Entrepreneurship & Development,* South Africa, 27 - 28 January, 2010, pp. 1-24.

Retief, E. 2011. *SAIPA welcomes budget 2011: urges more action on cost of doing business.* [Online] Available from: http://www.publiceyenews.com/2011/02/25/saipa-welcomes-budget-2011-urges-more-action-on-cost-of-doing-business/ [Accessed: 2011-08-02].

Sandford, C. 1995. *Tax compliance costs measurement and policy.* Bath, England: Fiscal Publications.

Sandford, C., Godwin, M. & Hardwick, P. 1989. *Administrative and compliance costs of taxation.* Bath, England: Fiscal Publications.

Sandford, C., Godwin, M., Hardwick, P. & Butterworth, I. 1981. *Costs and benefits of VAT.* London: Heinemann.

SARS. 2011a. *More about small business.* [Online] Available from: http://www.sars.gov.za/tools/Printbody.asp?pid=46185 [Accessed: 2011-09-04].

SARS. 2011b. *Correspondence — employer PAYE interim reconciliation — for eFilers — 21 September 2011*. [Online] Available from: http://www.sars.gov.za/home.asp?pid=187 [Downloaded: 2011-09-30].

SARS. 2011c. *Tax guide for small businesses 2010/11*. [Online] Available from: http://www.sars.gov.za/home.asp?pid=54773 [Accessed: 2011-08-26].

SARS. 2011d. *Quick guide to advance tax rulings.* [Online] Available from: http://www.sars.gov.za/home.asp?pid=4150 [Accessed: 2011-09-02].

Saunders, M., Lewis, P. & Thornbill, A. 2007. *Research methods for business students*. 4th ed. Essex, England: Pearson Education Limited.

SBP. 2005. Counting the cost of red tape for business in South Africa — Main Report, June 2005. Johannesburg: Strategic Business Partnerships.

SBP. 2011. Headline report of SBP's SME growth index, Priming the soil — Small business in South Africa — November 2011. Johannesburg: Strategic Business Partnerships.

Shih, T. & Fan, X. 2008. Comparing response rates from web and mail surveys: a method-analysis. *Field Methods*, 20(3):249-271. [Online] Available from: SAGE: http://dx.doi.org/10.1177/1525822X08317085 [Accessed: 2011-08-19].

Small Business Project. 2003. *SME Alert — October 2003. A small business perspective on tax compliance*. [Online] Available from: http://www.sbp.org.za/uploads/media/SME_Alert_A_small_business_pespective_on_tax_compliance_October_2003.pdf [Downloaded: 2011-07-27].

Smulders, S.A. 2006. *Taxation compliance burden for small business in South Africa*. Unpublished master thesis. University of Pretoria. [Online] Available from: http://upetd.up.ac.za/thesis/available/etd-04282009-172111/ [Accessed: 2011-11-27].

South Africa. 1962. *Income Tax Act, No. 58 of 1962*. [Online] Available from: http://www.acts.co.za/tax/index.htm [Accessed: 2011-06-29].

South Africa. 1991. *Value Added Tax Act, No. 89 of 1991*. [Online] Available from: http://www.acts.co.za/tax/index.htm [Accessed: 2011-06-29].

South Africa. 1999. *Skills Development Levies Act, No. 9 of 1999*. [Online] Available from: http://www.sars.gov.za/LNB/MyLNB.asp [Downloaded: 2011-06-29].

South African Revenue Service — see SARS.

Statistics South Africa. 2008. *Annual inflation on a monthly basis*. [Online] Available from: http://www.statssa.gov.za/keyindicators/CPI/CPIHistory_rebased.pdf [Download: 2011-09-04].

Statistics South Africa. 2010a. *Annual financial statistics 2009*. [Online] Available from: http://www.statssa.gov.za/publications/statsdownload.asp?PPN=p0021&SCH=4768 [Accessed: 2011-09-04].

Statistics South Africa. 2010b. *Monthly earnings of South Africans, 2010*. [Online] Available from: http://www.statssa.gov.za/Publications/P02112/P021122010.pdf [Downloaded: 2011-08-23].

Statistics South Africa. 2011a. *Consumer price index: index number year-on-year rates*. [Online] Available from: http://www.statssa.gov.za/keyindicators/CPI/CPIHistory.pdf [Downloaded: 2011-09-23].

Statistics South Africa. 2011b. *Consumer Price Index (CPI) — October 2011*. [Online] Available from: http://www.statssa.gov.za/publications/P0141/P0141October2011.pdf [Downloaded: 2011-11-25].

Strategic Business Partnerships for business growth in Africa — see SBP.

Tran-Nam, B. 1999. Comments on recognizing the pitfalls in tax compliance costs research. *Revenue Law Journal*, 9(1):157-171. [Online] Available from: ITD: http://www.austlii.edu.au/au/journals/SydLRev/1999/20.html [Accessed: 2011-07-01].

Tran-Nam, B. 2001. Use and misuse of tax compliance costs in evaluating the GST. *The Australian Economic Review*, 34(3):279-290. [Online] Available from: http://onlinelibrary.wiley.com/doi/10.1111/1467-8462.00196/abstract;jsessionid=B72435E47F2E19D3EF3C3073A710894D.d03t03 [Accessed: 2011-11-10].

Tran-Nam, B., Evans, C., Walpole, M. & Ritchie, K. 2000. Tax Compliance Costs: Research Methodology and Empirical Evidence from Australia. *National Tax Journal*, 53(2):229-252.

Turner, J.L., Smith, M. & Gurd, B. 1998b. Recognizing the pitfalls in tax compliance costs research. *Revenue Law Journal*, 8(1):62-87. [Online] Available from: epublications.bond.edu.au/cgi/viewcontent.cgi?article=1092...rlj [Accessed: 2011-11-10].

Venter, J.M.P. & de Clercq, B. 2007.A three-sector comparative study of the impact of taxation on small and medium enterprises. *Meditari: Research Journal of the School of Accounting Sciences*, 15(2):131-151. [Online] Available from: SA ePublications: http://0-search.sabinet.co.za.innopac.up.ac.za/WebZ/images/ejour/images/ejour/meditari/meditari_v15_n2_a8.pdf?sessionid=01-58565-992608138&format=F [Accessed: 2011-07-07].

Walters, R. 2011. *Global Salary Survey 2011 — South Africa.* [Online] Available from: http://us-cdn.creamermedia.co.za/assets/articles/attachments/31735_southafrica_salary_survey_2011.pdf [Downloaded: 2011-08-22].

REPORT 2: DETERMINANTS OF INTERNAL TAX COMPLIANCE COSTS: EVIDENCE FROM SOUTH AFRICA

1. INTRODUCTION

The South African small business sector faces various challenges, one of which is the regulatory and legislative burden imposed on small businesses in the form of tax legislation (SBP, 2005:44, SBP 2011:28). One of the elements of the tax burden is the tax compliance burden – the amount of time and money (compliance costs) spent in order to comply with tax laws (Charron, Chow & Halbesma, 2008:iv; Coolidge, Ilic & Kisunko, 2009:4; Guyton, O'Hare, Stavrianos, & Toder, 2003:676; OECD, 2010:5). Three broad components have emerged as the indisputable core elements of tax compliance costs (Evans, 2006:3; Turner, Smith, & Gurd, 1998:96; Tran-Nam, Evans, Walpole, & Ritchie, 2000:229; OECD, 2009:16), namely

- taxpayers' and unpaid helpers' time (internal tax compliance costs);
- tax practitioners' fees (external tax compliance costs); and
- incidental expenses.

It is the first component (internal tax compliance costs – taxpayers' and unpaid helpers' time) that will be considered in this article – the second component is considered in a separate article (the third component, as its name implies, is not considered material and is thus not considered further). Internal tax compliance costs include the cost of labour or time devoted to tax activities, for example, the time taken by a business person (an owner), the person's employee (a manager/internal bookkeeper/accountant/other employee handling taxes) or an unpaid friend or relative to learn and understand the tax law and the obligations the law imposes, or the time taken to obtain documents and data to complete a tax return (Evans, 2008:451; Klun & Blazic, 2005:418; Turner *et al.*, 1998:96).

Smulders, Stiglingh, Franzsen & Fletcher (2012) found that internal tax compliance costs increase as the size of the business – based on turnover – increases. Validation of these findings was considered necessary because a failure to address the validity of the responses obtained from instruments (such as online questionnaires as used in that study) raises issues of trust in research findings (Murphy, Hashim & O'Connor, 2007:1). Furthermore, it was considered appropriate to identifying any other possible determinants that could influence internal tax compliance costs and if so, which of these factors have the largest influence on the levels of these costs (Eichfelder & Schorn, 2008:2).

This study aims to provide insight into the key drivers of internal tax compliance costs (per tax) for small businesses by using regression analyses. A regression analysis was performed on the results obtained from the Smulders *et al*. (2012) empirical study conducted in 2011 on the tax compliance

costs incurred by small businesses in South Africa. This survey was conducted by means of an electronic questionnaire distributed by the SARS to 88 057 small businesses (turnover of R14 million or less) registered with SARS and for which SARS had an e-mail address at the time the questionnaire was distributed (Murugan, 2011a).

As the whole target population (as described above) was selected, no statistical sampling techniques were used. The number of usable questionnaires received amounted to 5 865, representing a response rate of 6.7%. Saunders, Lewis & Thornhill (2007:358) indicates that internet based surveys are likely to have a response rate of 11% or lower, however, it must be mentioned that the electronic survey platform used to distribute the questionnaire could unfortunately not determine how many of the e-mails that were sent out were undeliverable (Murugan, 2011b:2). This could have had a major effect on the response rate and consideration should be given to this fact before concluding on the response rate. Although one can therefore not come to any definite conclusions about how representative and statistically reliable the sample was, 5 865 responses should nevertheless provide invaluable information and insight into an area where there is currently no reliable and up to date statistical information available.

The remainder of the article will first describe the methodology used for the regression analysis. The results of the regression analysis will be presented next. Thereafter the conclusions will be documented and the need for future research highlighted.

2. METHODOLOGY USED FOR THE ANALYSIS

2.1 Regression analysis

Field (2009:198) describes a regression analysis as a statistical tool used to examine the relationship between variables (anything that can be measured) by ascertaining the casual effect of one variable upon another single variable (simple regression) or upon more than one variable (multiple regression). A multiple regression analysis was considered an appropriate tool for the analysis of external tax compliance costs because analyses of this nature are typically used to show the applied value of research findings (Murphy *et al.*, 2007:3).

In order to determine the variables (called the independent variables or explanatory variables – predictors) that have an effect on the internal tax compliance costs (called the dependent variables), the results of the small business tax compliance cost study were considered and a review of the literature was performed in order to develop hypotheses about the independent variables that could possibly have an effect on internal tax compliance costs, as suggested by Eichfelder and Schorn

(2008:5). The hypotheses and choice of independent variables were selected based on the findings of the small business tax compliance cost study, as well as on past research (Field, 2009:212).

However, before considering these independent variables and hypotheses, it must be mentioned that the time (hours) was used as the dependent variable for the **internal** tax compliance costs (activities), rather than the costs (Rand values), because no singular Rand value amount was provided by the respondents in the survey. Instead, a series of calculations had to be performed by the researcher using various answers provided by the respondents to various questions in the questionnaire (such as who performs the task, how this task is divided between these persons and what the value of these persons' time is) to obtain the overall internal tax compliance costs. It is argued that the use of hours is more suitable than the Rand values as the valuation of the hourly rate used to calculate the overall costs of internal tax compliance is regarded as a somewhat contentious issue (Evans, Ritchie, Tran-Nam & Walpole, 1997:11).

Having established hypotheses about the determinants (the independent variables) of internal tax compliance costs from the current study's results and the literature, the assumed influence of these variables on the tax compliance costs were investigated using the General Linear Model (GLM) procedure in SPSS. Although other international tax compliance costs studies have used other forms of multiple regression – such as the Ordinary Least Squares method (Blaufus, Eichfelder, & Hundsdoerfer, 2011:8; Hasseldine & Hansford, 2002:380) and the logarithmic GLS model (Eichfelder & Schorn, 2009:11) – to estimate the effect of various independent variables on the tax compliance costs, it was decided to use the GLM in the current study because it readily accommodates both categorical and continuous predictors.

The internal hours provided by the respondents were provided per tax, so each tax was separately analysed by means of its own regression model. Following the approach used by Hasseldine and Hansford (2002:381), once the initial regression analysis had been performed and the results analysed, the analyses were re-run but this time including only those independent variables that were found to be significant in the first regression analysis. This was done to determine whether the model specifications were robust or not. The results from all these analyses are discussed after the hypotheses and regression models used have been explained.

2.2 Hypotheses

A hypothesis is a prediction about the state of the world (Field, 2009:787). A regression analysis tests hypotheses – by determining which predictor variables (independent variables) contribute substantially to the regression model's ability to predict the outcome (dependent variable), or explain

the variability in the dependent variable. Predictor variables should only be included in a regression analysis if there are sound theoretical reasons for expecting them to influence the dependent variable (Field, 2009:225). In order to determine the variables that could influence internal tax compliance costs, a review of the literature was performed.

The literature revealed that most of the studies that used a regression analysis to determine the influence of hypothesised variables on tax compliance costs did so in general and not per tax (DeLuca, Greenland, Guyton, Hennessey, & Kindlon, 2005; Eichfelder & Schorn, 2008; Reekmans & Simoens, 2010). However, the Hasseldine & Hansford (2002) study only dealt with variables that influence VAT tax compliance costs and the Blaufus *et al*. (2011) study only dealt with variables that influence income tax compliance costs. As no detail is available on the influence of these variables on other taxes (such as PAYE, CGT, turnover tax, customs duties and excise levies considered in the current study) their application to the other taxes was considered appropriate. The same rationale applied to the other studies that used regression analyses for total tax compliance costs rather than for each individual tax, and hence their hypotheses were regarded as appropriate for each separate tax.

Using these studies it is argued that the following variables have an influence on internal tax compliance costs:

- business size (Coolidge *et al*., 2009);
- sector (Eichfelder & Schorn, 2008; Hasseldine & Hansford, 2002; Reekmans & Simoens, 2010);
- legal form (Blaufus *et al*., 2011; Coolidge *et al*., 2009; DeLuca *et al*., 2005);
- business age (Eichfelder & Schorn, 2008);
- use of small business tax concessions (Freedman, 2006, 2009; Pope, 2008);
- level of education of business owners/employees (Blaufus *et al*., 2011);
- accounting knowledge of business owners/employees (Blaufus *et al*., 2011);
- use of an external service provider (Blaufus *et al*., 2011);
- type of accounting system used (Coolidge *et al*., 2009; Hasseldine & Hansford, 2002);
- province (Eichfelder & Schorn, 2008);
- gender and marital status (Blaufus *et al*., 2011);
- psychological factors (Eichfelder & Schorn, 2008; Hasseldine & Hansford, 2002);
- administrative strategy (capital-intensive or personnel-intensive) (Eichfelder & Schorn, 2008, 2009);
- use of electronic data interchange (Eichfelder & Schorn, 2009).

The information in relation to the last five abovementioned points was not considered in the current study. The primary reason for this being that the questionnaire was already considerably long without their inclusion. Research in these areas can therefore be considered in the future.

Using the information in the remaining bullet points and the results obtained from the small business tax compliance cost study (Smulders *et al.*, 2012) – that the time (hours) and costs involved in complying with tax legislation increase as business size increases – the following hypotheses were derived:

- **Business size** – As the size of the business increases, the absolute internal tax compliance costs also increase (Coolidge *et al.*, 2009:3). Three measures of business size can be used – turnover, number of employees and gross asset value (South Africa, 1996). As the information relating to only two of these measures was available from the data of the current study, only **turnover** and **number of employees** could be considered. To determine which one of these variables has a stronger impact on internal tax compliance hours/costs, both variables were included in the analysis.
- **Sector** – The sector in which a small business operates is not a significant determinant of internal tax compliance costs (Reekmans & Simoens, 2010:36). However, Hasseldine and Hansford (2002:382) found that some sectors (such as manufacturing, services and dealing in goods sectors) incurred lower VAT compliance costs than other sectors; Eichfelder and Schorn (2008:14) also found that the services sector had higher tax compliance costs (including the time burden) than the building sector. The results of the current study found that the transport, postal and warehousing sector followed by the public administration and safety sector spend the most time on internal tax compliance activities, but reasons for this were not immediately evident. There was no consistency in the local and international literature regarding the significance of sector on internal tax compliance costs. In addition, no other research in South Africa has indicated that the sector has a significant effect on tax compliance costs. Hence, the hypothesis that the sector in which a small business operates is not a significant determinant of internal tax compliance costs was retained for the purposes of this study's regression analysis.
- **Legal form** – Sole proprietors spend more time on internal tax activities than CCs and companies that tend to outsource their tax compliance activities (Blaufus *et al.*, 2011:10).
- **Business age** – Younger businesses incur lower internal tax compliance costs than more established businesses. This is due to a lower degree of tax complexity compared to more established businesses (Eichfelder & Schorn, 2008:11).

- **Use of small business tax concessions** – Using the small business tax concessions increases the internal tax compliance costs incurred by small businesses, because the complexity of these concessions result in more time being spent in order to understand and apply these concessions (Freedman, 2006:59, 2009:156; Pope, 2008:33).
- **Level of education** – Businesses that have owners/employees who have at least a university degree or higher incur greater internal costs (spend more time on tax compliance) than those who have no university degree, as they tend to be more interested in compliance work and tax planning (Blaufus *et al*., 2011:11).
- **Accounting knowledge** – Internal tax compliance costs decrease the higher the level of accounting knowledge that the owners/employees has as less time needs to be spent on understanding the tax implications of most accounting transactions (Blaufus *et al*., 2011:11).
- **Use of external service provider** – Using the services of an external service provider decreases the internal tax compliance costs (time) compared to a business that does not use these services (Coolidge *et al*., 2009:26).
- **Accounting system used** – A business using a computerised accounting system for tax compliance as opposed to a manual system, should have higher internal tax compliance costs. This is due to high annual licence fees and training costs required in order to operate these systems correctly (Hasseldine & Hansford, 2002:382).

These hypotheses were tested using a multiple regression model, as explained in the next section.

2.3 Regression model

The above hypotheses and the statistical significance of their predicted effect were assessed using the following model for **internal tax compliance costs**:

$$Y_{TCC}=b_0+ b_1\cdot X_{Employees} + b_2\cdot X_{Sector}+ b_3\cdot X_{LegalForm}+ b_4\cdot X_{Age} +b_5\cdot X_{Turnover} + b_6\cdot X_{Concessions} + b_7\cdot X_{Education} + b_8\cdot X_{AccKnowledge} + b_9\cdot X_{Outsourcing}+b_{10}\cdot X_{AccSystem} +e$$

Reference categories for the categorical variables were chosen based on the categories that the majority of the respondents to the survey had chosen. In most instances, the reference categories were also in line with the literature mentioned above, in the hypotheses. The variables contained in this model can be described as follows:

Y_{TCC} **Tax compliance costs**. This is in essence the outcome to be predicted – what is the effect of each of the independent variables on these costs? The internal hours spent on tax compliance activities were used to represent the internal tax compliance costs.

$X_{Employees}$ The **number of employees** in the business.

X_{Sector} The **sector** in which the business operated. The various sectors were coded as follows in the regression model – based on the six categories that were the most strongly represented in the current study:

- 1 for the manufacturing sector;
- 2 for the construction sector;
- 3 for the retail sector;
- 4 for the finance and insurance sector;
- 5 for the administrative and support sector;
- 6 for the other sectors (which include, for instance, the transport, postal and warehouse, public administration and safety, mining and electricity, gas, water supply and waste removal sectors); and
- 7 (the reference category) for the professional services sector.

$X_{LegalForm}$ The **legal form** in which the business operated. The various forms were coded as follows in the regression model:

- 1 for a sole proprietor;
- 2 for partnership;
- 3 for a trust;
- 4 for a (Pty) Ltd;
- 5 for the other forms (PBO/NGO, incorporated association, unincorporated association and other); and
- 6 (the reference category) for a CC.

X_{Age} The **age** of the business. The age categories of the businesses were coded as follows in the regression model:

- 1 if the business had been in operation for five years or less; and
- 2 (the reference category) if the business had been operating for more than five years.

$X_{Turnover}$ The **turnover** of the business. The turnover categories of the businesses were coded as follows in the regression model:

- 1 if turnover was R1 – R245,000;
- 2 if turnover was R245,001 – R525,000;
- 3 if turnover was R525,001 – R1 million;
- 4 if turnover was R3,000,001 – R7 million;
- 5 if turnover was R7,000,001 – R14 million; and
- 7 (the reference category) if turnover was R1 million – R3 million.

The omission of a number "6" category was purely a typing error and does not affect the results.

$X_{Concessions}$ The **use of small business tax concessions** by the business. The use of these concessions was coded as follows in the regression model:

- 1 if the business did use these concessions; and
- 2 (the reference category) if they did not.

The "don't know" category was ignored for the purposes of this measurement.

$X_{Education}$ The **level of education** of the person completing the questionnaire. The various levels of education of the respondents were coded as follows in the regression model:

- 1 if they had a high school education;
- 2 if they had technical college education;
- 3 if they were a certified financial accountant, chartered accountant or tax practitioner;
- 4 if they had other experience (practical, studying or lower than high school qualifications); and
- 5 (the reference category) if the person had obtained a university education.

$X_{AccKnowledge}$ The respondent's accounting knowledge. The knowledge levels

were coded as follows in the regression model:

- 1 if the person had no knowledge at all, or no bookkeeping knowledge, but could understand financial reports;
- 2 if the person had a basic knowledge of bookkeeping;
- 3 if the person was a qualified accountant; and
- 4 (the reference category) if the person had good bookkeeping knowledge or was a qualified bookkeeper.

$\mathbf{X_{Outsourcing}}$ The **use of an external service provider** for tax services (outsourcing). The use of an external service provider was coded as follows:

- 1 if the business used an external service provider;
- 2 if the businesses did not use an external service provider (the reference category).

$\mathbf{X_{AccSystem}}$ The **type of accounting system used**. The type of system used was coded as follows in the regression model:

- 1 if no accounting system was used;
- 2 if a paper-based or manual system was used; and
- 3 (the reference category) if a computerised system was used.

e It represents the error term, that is, allowing for the difference between the predicted value obtained by the (best fit) model and the observed dependent value.

A check for multicollinearity was performed and the diagnostic test revealed that the assumption of independence was not violated. The results of the regression analysis are discussed next.

2.4 Regression procedure

The following steps were followed to obtain the results of the regression analyses:

- a regression analysis was run per tax using the hypotheses (Model 1);

- the determinants that were considered to have a significant impact on the internal tax compliance costs were identified from the regression model (Model 1);
- the application of these determinants to each cost (and tax where applicable) was considered and discussed;
- the regression analysis was then re-run (Model 2 – a parsimonious model) using only those significant determinants identified from Model 1; and
- any differences between Model 1 and Model 2 were evaluated.

The respondents provided information regarding the number of hours that they spent on tax compliance activities **per tax**, so a multiple regression analysis was conducted for each of the individual taxes. This provided information on what the significant determinants were for each tax, and it also enabled a comparison to be done to understand whether or not these determinants are the same across the different taxes.

3. RESULTS OF REGRESSION ANALYSES AND INTERPRETATION THEREOF

The results are discussed in the following order: VAT, income tax, PAYE, CGT, turnover tax, customs and excise duties.

3.1 VAT

The findings of the multiple regression analysis performed on the internal hours spent on VAT are set out in Tables 1 and 2. A significant portion of the variation in the dependent variable (hours) is explained by the regression model ($F=4.278$; $df1=29$; $df2=1873$; $p<0.001$). The coefficient of determination (R^2) is 0.062, thus 6.2% of the variation in the hours spent on internal tax compliance activities was explained by this model. This implies that factors other than those considered in this model had an effect on the number of hours. As establishing what these factors are is beyond the scope of the current study, these factors are not considered further. Although the coefficient of determination is low, it was nevertheless considered valuable to report the findings of the model.

The variables that were found to have a significant effect on the internal tax compliance costs were legal form ($X_{LegalForm}$), turnover ($X_{Turnover}$), use of external service providers ($X_{Outsourcing}$) and the type of accounting system used ($X_{AccSystem}$).

In respect of **legal form**, sole proprietors ($X_{LegalForm}$=1) were found to have spent significantly more time on internal tax compliance activities than CCs ($X_{LegalForm}$=6). Companies ($X_{LegalForm}$=4) also spent more time than CCs but still spent less time on compliance than sole proprietors. These findings are in line with the hypothesis that sole proprietors perform most of these functions themselves, whereas CCs and companies tend to outsource these functions (Blaufus *et al.*, 2011:10). VAT is a fairly routine task and this could also explain to some extent why the sole proprietors would perform this function in-house rather than obtain the services of an external service provider.

The model shows that the number of hours spent on VAT compliance increase as the size (based on **turnover** ($X_{Turnover}$)) of the business increases, which is in line with the hypothesis. This is understandable because entities with taxable supplies (similar to turnover) of R1 million or less need not register for VAT. Another reason could be that generally the number of transactions would increase as the size of the business increases, resulting in more VAT transactions and thus more time spent on compliance.

The **use of an external service provider** ($X_{Outsourcing}$=1) to assist with VAT functions increases the number of hours spent on internal VAT compliance, according to the model. This is in contrast with the expectation of the hypothesis that the hours would decrease. Coolidge *et al.* (2009:26) provide a possible explanation for this – they argue that when small businesses partially outsource, this leads to a duplication of work and effort, as the external service provider has to check what the small business has done, and where necessary must make the necessary corrections. Whether or not this is the case for the respondents in the current study cannot be established from the data, as the questionnaire did not ask about which taxes outsourcing was required for. More research into the extent of outsourcing, and for which tax outsourcing is used, would need to be undertaken in order to reach a definitive conclusion on this matter.

Using a computerised **accounting system** ($X_{AccSystem}$=3) increases the number of hours spent internally by small businesses on tax compliance activities, which is in line with the hypothesis. As Hasseldine and Handsford (2002:382) explain, when businesses use a manual system, it is perhaps an indication that they do not place a high value on the time taken to perform these functions or that businesses using a computerised system require more training time in order to be able to use the system.

If Model 1 is compared to Model 2, it is evident that the signs and coefficients remain the same for each variable and all continue to be statistically significant at conventional levels, although the time taken by private companies ($X_{LegalForm}$=4) is now higher than that of sole proprietors ($X_{LegalForm}$=1), contradicting the hypothesis. This finding indicates that perhaps these entities also tend to perform

this routine function in-house. Trusts spent the least amount of time on this tax function, generally because trusts are not used often for business purposes (Rhone, 2011:3).

Table 1: VAT: Test of between-subject effects – Model 1 and Model 2

Model 1 – VAT

Tests of Between-Subjects Effects

Dependent Variable: Q12a_total_Ln

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	305.392[a]	29	10.531	4.278	<0.001**
Intercept	1522.768	1	1 522.768	618.535	<0.001**
$X_{Employees}$	4.029	1	4.029	1.637	0.201
X_{Sector}	27.762	6	4.627	1.879	0.081
$X_{LegalForm}$	34.465	5	6.893	2.800	0.016*
X_{Age}	1.733	1	1.733	0.704	0.402
$X_{Turnover}$	87.804	5	17.561	7.133	<0.001**
$X_{Concessions}$	4.587	1	4.587	1.863	0.172
$X_{Education}$	9.783	4	2.446	0.993	0.410
$X_{AccKnowledge}$	11.357	3	3.786	1.538	0.203
$X_{Outsourcing}$	15.655	1	15.655	6.359	0.012*
$X_{AccSystem}$	26.255	2	13.127	5.332	0.005*
Error	4 611.128	1 873	2.462		
Total	41 568.024	1 903			
Corrected Total	4 916.520	1 902			

a. R Squared=0.062 (Adjusted R Squared=0.048)

* Significant at the 5% level
** Significant at the 1% level

Model 2 – VAT

Tests of Between-Subjects Effects

Dependent Variable: Q12a_total_Ln

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	421.171[a]	13	32.398	13.739	<0.001**
Intercept	4 176.449	1	4 176.449	1771.152	<0.001**
$X_{LegalForm}$	50.695	5	10.139	4.300	0.001**
$X_{Turnover}$	245.202	5	49.040	20.797	<0.001**
$X_{Outsourcing}$	21.194	1	21.194	8.988	0.003*
$X_{AccSystem}$	35.247	2	17.623	7.474	0.001**
Error	9 142.125	3 877	2.358		
Total	83 530.979	3 891			
Corrected Total	9 563.296	3 890			

a. R Squared=0.044 (Adjusted R Squared=0.041)

* Significant at the 5% level
** Significant at the 1% level

Table 2: VAT: Parameter estimates – Model 1 and Model 2

Model 1 – VAT

Parameter Estimates

Dependent Variable: Q12a_total_Ln

Parameter	B	Std. Error	t	Sig.
Intercept	4.039	0.163	24.748	<0.001**
$X_{Employees}$	0.002	0.002	1.279	0.201
$[X_{Sector}=1]$	0.156	0.141	1.110	0.267
$[X_{Sector}=2]$	0.291	0.170	1.712	0.087
$[X_{Sector}=3]$	0.223	0.142	1.573	0.116
$[X_{Sector}=4]$	0.152	0.164	0.929	0.353
$[X_{Sector}=5]$	-0.243	0.166	-1.465	0.143
$[X_{Sector}=6]$	0.029	0.106	0.270	0.787
$[X_{Sector}=7]$	0[a]			
$[X_{LegalForm}=1]$	0.375	0.139	2.705	0.007*
$[X_{LegalForm}=2]$	0.126	0.095	1.330	0.184
$[X_{LegalForm}=3]$	-0.542	0.298	-1.821	0.069
$[X_{LegalForm}=4]$	0.302	0.338	0.893	0.372
$[X_{LegalForm}=5]$	-0.043	0.218	-0.195	0.846
$[X_{LegalForm}=6]$	0[a]			
$[X_{Age}=1]$	0.074	0.089	0.839	0.402
$[X_{Age}=2]$	0[a]			
$[X_{Turnover}=1]$	-0.411	0.145	-2.838	0.005*
$[X_{Turnover}=2]$	-0.325	0.140	-2.318	0.021*
$[XT_{urnover}=3]$	-0.256	0.113	-2.268	0.023*
$[X_{Turnover}=4]$	0.263	0.104	2.536	0.011*
$[X_{Turnover}=5]$	0.319	0.125	2.561	0.011*
$[X_{Turnover}=7]$	0[a]			
$[X_{Concessions}=1]$	0.131	0.096	1.365	0.172
$[X_{Concessions}=2]$	0[a]			
$[X_{Education}=1]$	-0.100	0.096	-1.045	0.296
$[X_{Education}=2]$	-0.145	0.106	-1.373	0.170
$[X_{Education}=3]$	0.013	0.253	0.052	0.959
$[X_{Education}=4]$	0.131	0.153	0.860	0.390
$[X_{Education}=5]$	0[a]			
$[X_{AccKnowledge}=1]$	-0.018	0.154	-0.117	0.907
$[X_{AccKnowledge}=2]$	-0.180	0.094	-1.916	0.055
$[X_{AccKnowledge}=3]$	0.063	0.112	0.567	0.571
$[X_{AccKnowledge}=4]$	0[a]			
$[X_{Outsourcing}=1]$	0.257	0.102	2.522	0.012*
$[X_{Outsourcing}=2]$	0[a]			
$[X_{AccSystem}=1]$	-0.745	0.316	-2.358	0.018*
$[X_{AccSystem}=2]$	-0.337	0.140	-2.407	0.016*
$[X_{AccSystem}=3]$	0[a]			

a. This parameter is set to zero because it is redundant.

* Significant at the5% level

** Significant at the 1% level

Model 2 – VAT

Parameter Estimates

Dependent Variable: Q12a_total_Ln

Parameter	B	Std. Error	t	Sig.
Intercept	4.169	0.086	48.727	<0.001**
$[X_{LegalForm}=1]$	0.203	0.091	2.225	0.026*
$[X_{LegalForm}=2]$	0.104	0.062	1.687	0.092
$[X_{LegalForm}=3]$	-0.472	0.193	-2.438	0.015*
$[X_{LegalForm}=4]$	0.456	0.202	2.257	0.024*
$[X_{LegalForm}=5]$	-0.164	0.142	-1.155	0.248*
$[X_{LegalForm}=6]$	0[a]			
$[X_{Turnover}=1]$	-0.498	0.096	-5.196	<0.001**
$[X_{Turnover}=2]$	-0.271	0.094	-2.888	0.004*
$[X_{Turnover}r=3]$	-0.272	0.077	-3.536	<0.001**
$[X_{Turnover}=4]$	0.259	0.071	3.653	<0.001**
$[X_{Turnover}=5]$	0.329	0.080	4.139	<0.001**
$[X_{Turnover}=7]$	0[a]			
$[X_{Outsourcing}=1]$	0.191	0.064	2.998	0.003*
$[X_{Outsourcing}=2]$	0[a]			
$[X_{AccSystem}=1]$	-0.639	0.218	-2.927	0.003*
$[X_{AccSystem}=2]$	-0.249	0.093	-2.664	0.008*
$[X_{AccSystem}=3]$	0[a]			

a. This parameter is set to zero because it is redundant.

* Significant at the 5% level

** Significant at the 1% level

3.2 Income tax

Tables 3 and 4 set out the findings of the regression analyses (Model 1 and Model 2) performed in respect of the internal hours spent on income tax. A significant portion of the variation in the dependent variable (hours) is explained by the regression model ($F=2.246$; $df1=29$; $df2=1857$; $p<0.001$). The coefficient of determination (adjusted R^2) is 0.034. Thus, only 3.4% of the variation in the number of hours spent on internal tax compliance activities is explained by this model. This is very low, indicating that there are other factors that have a large effect on the number of hours spent on internal tax compliance activities in respect of income tax. Establishing what these factors are falls beyond the scope of this study, hence these factors are not considered further. Although the coefficient of determination is very low, it was nevertheless considered valuable to report the findings of the model.

The variables that were found to have a significant effect on the internal tax compliance costs were legal form ($X_{LegalForm}$), turnover ($X_{Turnover}$), level of education of the respondent ($X_{Education}$) and accounting knowledge of the respondent ($X_{AccKnowledge}$).

With regard to the **legal form** of the business, sole proprietors ($X_{LegalForm}=1$) spent significantly more time on tax compliance activities than CCs ($X_{LegalForm}=6$) did. Companies ($X_{LegalForm}=4$) spent less time on these activities than CCs. Both these findings are in line with the hypothesis that sole proprietors perform most of these functions themselves, whereas CCs and companies would tend to outsource these functions, generally because their businesses are more sophisticated (Blaufus *et al.*, 2011:10).

Although the model shows that the number of hours needed to perform income tax compliance activities increases as the size (based on the **turnover** ($X_{Turnover}$)) of the business increases (in line with the hypothesis), these increases are not significant per turnover band (Model 1). This implies that the size of the business has very little effect on the number of hours a business has to spend on income tax – an indication of the burden faced by the smaller businesses. Model 2, however, reveals that businesses with a turnover of R3 million or more tend to spend significantly more time on income tax compliance activities than businesses with a turnover of between R1 million and R3 million. This could be because these businesses are involved in more complex transactions and do more tax planning.

The hypothesis that businesses employing persons with university qualifications (**Education,** ($X_{Education}=5$)) spend more time on internal tax compliance activities than

businesses with fewer or lower qualifications is proved in respect of income tax in both Model 1 and Model 2. These individuals are probably more interested and educated in tax compliance activities and tax planning and thus tend to spend more time on these functions.

The hypothesis that internal tax compliance costs decrease the higher the level of **accounting knowledge** of the owner/employee ($X_{AccKnowledge}$) was not confirmed by the results of the regression analysis: the higher the qualification of the owner/employee, the more time was found to be spent internally on these activities. An exception to this finding is persons with basic bookkeeping knowledge ($X_{AccKnowledge}=2$), who spent less time on income tax compliance activities than those with no accounting knowledge ($X_{AccKnowledge}=1$). This is probably because those with no accounting knowledge also have no or very little tax knowledge and thus require more time to come to grips with the tax legislation. Despite this, overall the results indicate that having more accounting knowledge increases the tax compliance time, possibly because these individuals are able to pick up more of the tax issues involved in the business, whereas those with less knowledge might not be aware that there are any possible tax issues. This might also be an indication of more tax planning taking place by individuals with better accounting knowledge.

If Model 1 is compared to Model 2, it is evident that the signs remain the same for each variable and all continue to be statistically significant at the conventional level, other than those already discussed above.

Table 3: Income Tax: Test of between-subject effects – Model 1 and Model 2

Model 1 – Income Tax

Tests of Between-Subjects Effects

Dependent Variable: Q12b_total_Ln

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	156.950[a]	29	5.412	2.246	<0.001**
Intercept	1 231.743	1	1 231.743	511.062	<0.001**
$X_{Employees}$	1.535	1	1.535	0.637	0.425
X_{Sector}	16.772	6	2.795	1.160	0.325
$X_{LegalForm}$	37.153	5	7.431	3.083	0.009*
X_{Age}	1.478	1	1.478	0.613	0.434
$X_{Turnover}$	27.143	5	5.429	2.252	0.047*
$X_{Concessions}$	0.192	1	0.192	0.080	0.778
$X_{Education}$	30.891	4	7.723	3.204	0.012*
$X_{AccKnowledge}$	19.083	3	6.361	2.639	0.048*
$X_{Outsourcing}$	2.043	1	2.043	0.848	0.357
$X_{AccSystem}$	1.970	2	0.985	0.409	0.665
Error	4 475.672	1 857	2.410		
Total	31 332.149	1 887			
Corrected Total	4 632.622	1 886			

a. R Squared=0.034 (Adjusted R Squared=0.019)

* Significant at the 5% level
** Significant at the 1% level

Model 2 – Income Tax

Tests of Between-Subjects Effects

Dependent Variable: Q12b_total_Ln

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	248.615[a]	17	14.624	6.170	<0.001**
Intercept	7 961.826	1	7 961.826	3 358.827	<0.001**
$X_{LegalForm}$	53.331	5	10.666	4.500	<0.001**
$X_{Turnover}$	55.670	5	11.134	4.697	<0.001**
$X_{Education}$	76.127	4	19.032	8.029	<0.001**
$X_{AccKnowledge}$	43.075	3	14.358	6.057	<0.001**
Error	10 579.177	4 463	2.370		
Total	72 122.170	4 481			
Corrected Total	10 827.792	4 480			

a. R Squared=0.023 (Adjusted R Squared=0.019)

* Significant at the 5% level
** Significant at the 1% level

Table 4: Income Tax: Parameter estimates – Model 1 and Model 2

Model 1 – Income Tax

Parameter Estimates

Dependent Variable: Q12b_total_Ln

Parameter	B	Std. Error	t	Sig.
Intercept	3.772	0.163	23.178	<0.001**
$X_{Employees}$	0.001	0.002	0.798	0.425
$[X_{Sector}=1]$	-0.022	0.143	-0.157	0.876
$[X_{Sector}=2]$	-0.141	0.170	-0.830	0.407
$[X_{Sector}=3]$	-0.242	0.143	-1.691	0.091
$[X_{Sector}=4]$	-0.060	0.150	-0.402	0.688
$[X_{Sector}=5]$	-0.351	0.164	-2.138	0.033*
$[X_{Sector}=6]$	-0.142	0.103	-1.379	0.168
$[X_{Sector}=7]$	0[a]			
$[X_{LegalForm}=1]$	0.441	0.133	3.313	0.001**
$[X_{LegalForm}=2]$	0.104	0.097	1.070	0.285
$[X_{LegalForm}=3]$	0.263	0.326	0.805	0.421
$[X_{LegalForm}=4]$	-0.041	0.367	-0.113	0.910
$[X_{LegalForm}=5]$	-0.248	0.230	-1.081	0.280
$[X_{LegalForm}=6]$	0[a]			
$[X_{Age}=1]$	0.067	0.085	0.783	0.434
$[X_{Age}=2]$	0[a]			
$[X_{Turnover}=1]$	-0.209	0.137	-1.520	0.129
$[X_{Turnover}=2]$	-0.204	0.131	-1.560	0.119
$[X_{Turnover}=3]$	-0.087	0.112	-0.779	0.436
$[X_{Turnover}=4]$	0.172	0.107	1.616	0.106
$[X_{Turnover}=5]$	0.192	0.129	1.486	0.137
$[X_{Turnover}=7]$	0[a]			
$[X_{Concessions}=1]$	0.026	0.093	0.282	0.778
$[X_{Concessions}=2]$	0[a]			
$[X_{Education}=1]$	-0.269	0.097	-2.777	0.006*
$[X_{Education}=2]$	-0.213	0.107	-1.997	0.046*
$[X_{Education}=3]$	0.311	0.236	1.320	0.187
$[X_{Education}=4]$	0.077	0.153	0.507	0.613
$[X_{Education}=5]$	0[a]			
$[X_{AccKnowledge}=1]$	-0.055	0.151	-0.365	0.715
$[X_{AccKnowledge}=2]$	-0.236	0.095	-2.479	0.013*
$[X_{AccKnowledge}=3]$	0.086	0.108	0.801	0.423
$[X_{AccKnowledge}=4]$	0[a]			
$[X_{Outsourcing}=1]$	0.092	0.100	0.921	0.357
$[X_{Outsourcing}=2]$	0[a]			
$[X_{AccSystem}=1]$	-0.288	0.324	-0.887	0.375
$[X_{AccSystem}=2]$	-0.031	0.133	-0.232	0.816
$[X_{AccSystem}=3]$	0[a]			

a. This parameter is set to zero because it is redundant.

* Significant at the 5% level
** Significant at the 1% level

Model 2 – Income Tax

Parameter Estimates

Dependent Variable: Q12b_total_Ln

Parameter	B	Std. Error	t	Sig.
Intercept	3.683	0.073	50.731	<0.001**
$[X_{LegalForm}=1]$	0.321	0.082	3.909	<0.001**
$[X_{LegalForm}=2]$	0.110	0.060	1.818	0.069
$[X_{LegalForm}=3]$	0.177	0.189	0.938	0.349
$[X_{LegalForm}=4]$	-0.003	0.196	-0.013	0.990
$[X_{LegalForm}=5]$	-0.231	0.140	-1.658	0.097
$[X_{LegalForm}=6]$	0[a]			
$[X_{Turnover}=1]$	-0.133	0.083	-1.609	0.108
$[X_{Turnover}=2]$	-0.133	0.082	-1.630	0.103
$[X_{Turnover}=3]$	-0.010	0.071	-0.147	0.884
$[X_{Turnover}=4]$	0.157	0.069	2.270	0.023*
$[X_{Turnover}=5]$	0.211	0.078	2.699	0.007*
$[X_{Turnover}=7]$	0[a]			
$[X_{Education}=1]$	-0.328	0.060	-5.442	<0.001**
$[X_{Education}=2]$	-0.133	0.067	-1.965	0.049*
$[X_{Education}=3]$	-0.073	0.155	-0.468	0.640
$[X_{Education}=4]$	0.027	0.099	0.279	0.780
$[X_{Education}=5]$	0[a]			
$[X_{AccKnowledge}=1]$	-0.133	0.086	-1.544	0.123
$[X_{AccKnowledge}=2]$	-0.151	0.059	-2.579	0.010*
$[X_{AccKnowledge}=3]$	0.161	0.069	2.336	0.020*
$[X_{AccKnowledge}=4]$	0[a]			

a. This parameter is set to zero because it is redundant.

* Significant at the 5% level
** Significant at the 1% level

3.3 PAYE

According to Table 5, a significant portion of the variation in the dependent variable is explained by Model 1 of the regression model (F=4.495; df1=29; df2=1998; p<0.001). The coefficient of determination (R^2) is 0.061, thus 6.1% of the variation in the number of hours spent on internal tax compliance activities is explained by this model. This is low, indicating that there are other factors that have a large effect on internal tax compliance costs in respect of PAYE. Additional research would need to be done in order to determine what exactly these factors are, but this is beyond the scope of the current study, hence these factors are not considered further. Although the coefficient of determination is low, it was nevertheless considered valuable to report the findings of the model.

The variables that were found to have a significant effect on the internal tax compliance costs were number of employees ($X_{Employees}$), turnover ($X_{Turnover}$), the accounting knowledge of the respondent ($X_{AccKnowledge}$) and use of an external service provider ($X_{Outsourcing}$). The fact that number of employees is significant is to be expected, because PAYE is paid by a business (employer) in respect of each of its employees.

Although the models indicate that there is a significant effect (p=0.023) on the number of hours spent on PAYE activities as the **number of employees** increases, this effect is very small (($X_{Employees}$), Beta=0.004), indicating that as the number of employees increases by one, so will the internal hours spent on PAYE compliance activities increase by 0.004 hours. This implies that there are economies of scale as the number of employees increases. This result proves the hypothesis that the number of hours needed to perform PAYE compliance activities increases as the number of employees increase. However, it also demonstrates that this increase is not very large – again indicating a larger burden for the smaller businesses.

Model 1 indicates that the size of the business based on **turnover** ($X_{Turnover}$) is more significant than the number of employees ($X_{Employees}$) (p=0.000 versus p=0.023). A reason for this increase in the number of hours spent on PAYE could be the increase in complexity of calculating PAYE for the employees (such as offering fringe benefits) when the turnover of the business increases, because more senior employees would be required to operate a larger turnover business. Model 1 and Model 2 show the trend that the number of hours spent on PAYE increases as the turnover of the business increases, confirming the hypothesis.

The hypothesis that internal tax compliance costs should decrease the higher the level of **accounting knowledge** of the owner/employee ($X_{AccKnowledge}$) is contradicted, because the higher the qualification of the owner/employee, the more time was found to be spent on these activities (Model 2). Once again, this might be because these individuals are able to pick up more of the tax issues involved in the business, whereas those with less knowledge might not be aware that there are any possible tax issues. These higher educated individuals are also more likely to do tax planning than those with a lower level of education.

It appears that businesses still spend a significant amount of internal time on PAYE, even though they make **use of external service providers** ($X_{Outsourcing}=1$), contradicting the hypothesis. This is again an indication that using partial outsourcing is not ideal. More in-depth research would be needed to establish exactly what outsourcing services were obtained before relying on this conclusion, although a regression analysis was run using the question relating to the use of external service providers for payroll functions and the results obtained remained the same.

If Model 1 is compared to Model 2, it is evident that the signs remain the same for each variable and all continue to be statistically significant at the conventional level, but Model 2 does clearly indicate the significance of turnover on the internal tax compliance costs for PAYE.

Table 5: PAYE: Test of between-subject effects – Model 1 and Model 2

Model 1 – PAYE

Tests of Between-Subjects Effects

Dependent Variable: Q12c_Total_Ln

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	266.920[a]	29	9.204	4.495	<0.001**
Intercept	1 274.468	1	1 274.468	622.423	<0.001**
$X_{Employees}$	10.644	1	10.644	5.198	0.023*
X_{Sector}	18.047	6	3.008	1.469	0.185
$X_{LegalForm}$	18.490	5	3.698	1.806	0.108
X_{Age}	4.264	1	4.264	2.082	0.149
$X_{Turnover}$	64.326	5	12.865	6.283	<0.001**
$X_{Concessions}$	2.227	1	2.227	1.088	0.297
$X_{Education}$	14.052	4	3.513	1.716	0.144
$X_{AccKnowledge}$	22.747	3	7.582	3.703	0.011*
$X_{Outsourcing}$	29.611	1	29.611	14.461	<0.001**
$XA_{ccSystem}$	7.446	2	3.723	1.818	0.163
Error	4 091.088	1 998	2.048		
Total	34 761.146	2 028			
Corrected Total	4 358.007	2 027			

a. R Squared=0.061 (Adjusted R Squared=0.048)

* Significant at the 5% level
** Significant at the 1% level

Model 2 – PAYE

Tests of Between-Subjects Effects

Dependent Variable: Q12c_Total_Ln

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	409.591[a]	10	40.959	20.450	<0.001**
Intercept	28 118.142	1	28 118.142	14038.730	<0.001**
$X_{Employees}$	35.862	1	35.862	17.905	<0.001**
$X_{Turnover}$	154.257	5	30.851	15.403	<0.001**
$X_{AccKnowledge}$	50.237	3	16.746	8.361	<0.001**
$X_{Outsourcing}$	38.877	1	38.877	19.411	<0.001**
Error	9 684.011	4 835	2.003		
Total	81 191.634	4 846			
Corrected Total	10 093.602	4 845			

a. R Squared=0.041 (Adjusted R Squared=0.039)

* Significant at the 5% level
** Significant at the 1% level

Table 6: PAYE: Parameter estimates – Model 1 and Model 2

Model 1 – PAYE

Parameter Estimates

Dependent Variable: Q12c_Total_Ln

Parameter	B	Std. Error	t	Sig.
Intercept	3.633	0.145	24.989	<0.001**
$X_{Employees}$	0.004	0.002	2.280	0.023*
$[X_{Sector}=1]$	0.187	0.129	1.454	0.146
$[X_{Sector}=2]$	-0.031	0.152	-0.204	0.838
$[X_{Sector}=3]$	-0.177	0.127	-1.387	0.166
$[X_{Sector}=4]$	0.090	0.139	0.649	0.517
$[X_{Sector}=5]$	-0.146	0.148	-0.981	0.327
$[X_{Sector}=6]$	0.008	0.094	0.088	0.930
$[X_{Sector}=7]$	0[a]			
$[X_{LegalForm}=1]$	0.239	0.122	1.967	0.049*
$[X_{LegalForm}=2]$	0.021	0.086	0.242	0.808
$[X_{LegalForm}=3]$	-0.436	0.271	-1.607	0.108
$[X_{LegalForm}=4]$	0.124	0.286	0.433	0.665
$[X_{LegalForm}=5]$	0.141	0.157	0.900	0.368
$[X_{LegalForm}=6]$	0[a]			
$[X_{Age}=1]$	0.112	0.078	1.443	0.149
$[X_{Age}=2]$	0[a]			
$[X_{Turnover}=1]$	-0.390	0.124	-3.150	0.002*
$[X_{Turnover}=2]$	-0.206	0.118	-1.736	0.083
$[X_{Turnover}=3]$	-0.228	0.100	-2.285	0.022*
$[X_{Turnover}=4]$	0.163	0.094	1.737	0.083
$[X_{Turnover}=5]$	0.307	0.113	2.724	0.007*
$[X_{Turnover}=7]$	0[a]			
$[X_{Concessions}=1]$	0.088	0.084	1.043	0.297
$[X_{Concessions}=2]$	0[a]			
$[X_{Education}=1]$	-0.124	0.084	-1.473	0.141
$[X_{Education}=2]$	-0.235	0.094	-2.493	0.013*
$[X_{Education}=3]$	-0.071	0.219	-0.324	0.746
$[X_{Education}=4]$	-0.024	0.132	-0.180	0.857
$[X_{Education}=5]$	0[a]			
$[X_{AccKnowledge}=1]$	-0.100	0.138	-0.722	0.470
$[X_{AccKnowledge}=2]$	-0.244	0.084	-2.924	0.003*
$[X_{AccKnowledge}=3]$	0.098	0.098	1.001	0.317
$[X_{AccKnowledge}=4]$	0[a]			
$[X_{Outsourcing}=1]$	0.333	0.088	3.803	<0.001**
$[X_{Outsourcing}=2]$	0[a]			
$[X_{AccSystem}=1]$	-0.284	0.298	-0.952	0.341
$[X_{AccSystem}=2]$	-0.210	0.123	-1.705	0.088
$[X_{AccSystem}=3]$	0[a]			

a. This parameter is set to zero because it is redundant.

Model 2 – PAYE

Parameter Estimates

Dependent Variable: Q12c_Total_Ln

Parameter	B	Std. Error	t	Sig.
Intercept	3.658	0.063	58.330	<0.001**
$X_{Employees}$	0.003	0.001	4.231	<0.001**
$[X_{Turnover}=1]$	-0.299	0.077	-3.900	<0.001**
$[X_{Turnover}=2]$	-0.241	0.074	-3.267	0.001**
$[X_{Turnover}=3]$	-0.168	0.063	-2.682	0.007*
$[X_{Turnover}=4]$	0.192	0.060	3.208	0.001**
$[X_{Turnover}=5]$	0.263	0.069	3.835	<0.001**
$[X_{Turnover}=7]$	0[a]			
$[X_{AccKnowledge}=1]$	-0.225	0.077	-2.915	0.004*
$[X_{AccKnowledge}=2]$	-0.179	0.051	-3.500	<0.001**
$[X_{AccKnowledge}=3]$	0.096	0.059	1.618	0.106
$[X_{AccKnowledge}=4]$	0[a]			
$[X_{Outsourcing}=1]$	0.233	0.053	4.406	<0.001**
$[X_{Outsourcing}=2]$	0[a]			

a. This parameter is set to zero because it is redundant.

* Significant at the 5% level
** Significant at the 1% level

3.4 Capital Gains Tax

Table 7 and 8 set out the findings of the regression analyses (Model 1 and Model 2) performed in respect of the internal hours spent on CGT. A significant portion of the variation in the dependent variable (hours) is explained by the regression model ($F=1.688$; $df1=29$; $df2=560$; $p<0.05$). The coefficient of determination (R^2) is 0.080, thus 8% of the variation in the internal hours spent on tax compliance activities is explained by this model. This is low, indicating that there are other factors that have an effect on internal tax compliance costs in respect of CGT. Additional research would need to be done in order to determine what exactly these factors are. Establishing these factors is beyond the scope of the current study, and thus these factors are not considered further. Although the coefficient of determination is low, it was nevertheless considered valuable to report the findings of the model.

The variables that were found to have a significant effect on the internal tax compliance costs were the sector (X_{Sector}) and age (X_{Age}) of the business. The fact that turnover (or number of employees) is not a factor is understandable, because CGT is not based on the size of the business but on the size and type of assets that the business has (and then sells). Although it is to be expected that larger businesses may have more assets (and thus pay more CGT), this would only be the case if a business actually sells such assets.

In terms of Model 1, the finance **sector** ($X_{Sector}=4$) spent the most time relative to the professional services sector ($X_{Sector}=7$) on complying with CGT (Beta=0.546), followed by the construction sector ($X_{Sector}=2$; Beta=0.190). The reason for the finance sector spending more time on this tax than any other sector was slightly puzzling, but Model 2 clarified this finding. Model 2 revealed that the sign indicator for the finance sector ($X_{Sector}=4$) had changed to a minus (Beta=-0.111), indicating that it is not in fact the sector that spends the most time on CGT compliance. Model 2 confirmed that the construction industry ($X_{Sector}=2$) spends the most time on CGT compliance. The number of hours spent by this sector can be explained more easily, as businesses in this sector would generally have a lot of valuable equipment such as graders, earthmoving equipment and forklifts to assist with their building endeavours and thus would be expected to be spending more time calculating and paying this tax when replacing/selling those assets than other sector. The administrative sector spends the least amount of time on CGT. As the sector's name indicates, it would generally not have many capital assets that it would buy and sell and thus have to pay CGT on. These findings disprove the hypothesis that the sector does not have an influence on CGT compliance activities.

From an **age** perspective, it is the younger businesses (X_{Age}=1) that tend to spend more hours on CGT compliance, which contradicts the hypothesis. Reasons for this could be that the smaller businesses, due to their lack of experience or knowledge, take longer to understand and apply the CGT legislation (performing the CGT calculations) when they actually do sell their assets than the more experienced older businesses.

If Model 1 is compared to Model 2, it is evident that the signs remain the same for each variable and all continue to be statistically significant at the conventional level.

Table 7: CGT: Test of between-subject effects – Model 1 and Model 2

Model 1 – CGT

Tests of Between-Subjects Effects

Dependent Variable: Q12d_Total_Ln

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	113.780[a]	29	3.923	1.688	0.014*
Intercept	113.376	1	113.376	48.791	<0.001**
$X_{Employees}$	1.378	1	1.378	0.593	0.442
X_{Sector}	50.805	6	8.467	3.644	0.001**
$X_{LegalForm}$	5.278	5	1.056	0.454	0.810
X_{Age}	19.141	1	19.141	8.237	0.004*
$X_{Turnover}$	10.576	5	2.115	0.910	0.474
$X_{Concessions}$	1.055	1	1.055	0.454	0.501
$X_{Education}$	12.203	4	3.051	1.313	0.264
$X_{AccKnowledge}$	8.741	3	2.914	1.254	0.289
$X_{Outsourcing}$	1.268	1	1.268	0.546	0.460
$X_{AccSystem}$	1.053	2	0.526	0.227	0.797
Error	1 301.281	560	2.324		
Total	4 138.958	590			
Corrected Total	1 415.061	589			

a. R Squared=0.080 (Adjusted R Squared=0.033)

* Significant at the 5% level
** Significant at the 1% level

Model 2 – CGT

Tests of Between-Subjects Effects

Dependent Variable: Q12d_Total_Ln

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	44.658[a]	7	6.380	2.611	0.011**
Intercept	3 618.026	1	3618.026	1480.818	<0.001**
X_{Sector}	31.857	6	5.309	2.173	0.043*
X_{Age}	12.342	1	12.342	5.052	0.025*
Error	3 298.403	1 350	2.443		
Total	9 641.062	1 358			
Corrected Total	3 343.061	1 357			

a. R Squared=0.013 (Adjusted R Squared=0.008)

* Significant at the 5% level
** Significant at the 1% level

Table 8: CGT: Parameter estimates – Model 1 and Model 2

Model 1 – CGT

Parameter Estimates

Dependent Variable: Q12d_Total_Ln

Parameter	B	Std. Error	t	Sig.
Intercept	2.282	0.277	8.238	<0.001**
$X_{Employees}$	0.003	0.004	0.770	0.442
$[X_{Sector}=1]$	-0.170	0.254	-0.670	0.503
$[X_{Sector}=2]$	0.190	0.308	0.616	0.538
$[X_{Sector}=3]$	-0.269	0.259	-1.039	0.299
$[X_{Sector}=4]$	0.564	0.247	2.281	0.023*
$[X_{Sector}=5]$	-0.537	0.326	-1.649	0.100
$[X_{Sector}=6]$	-0.442	0.182	-2.429	0.015*
$[X_{Sector}=7]$	0[a]			
$[X_{LegalForm}=1]$	-0.166	0.246	-0.673	0.501
$[X_{LegalForm}=2]$	-0.079	0.169	-0.470	0.639
$[X_{LegalForm}=3]$	0.416	0.477	0.871	0.384
$[X_{LegalForm}=4]$	-0.406	0.538	-0.754	0.451
$[X_{LegalForm}=5]$	0.115	0.373	0.307	0.759
$[X_{LegalForm}=6]$	0[a]			
$[X_{Age}=1]$	0.451	0.157	2.870	0.004*
$[X_{Age}=2]$	0[a]			
$[X_{Turnover}=1]$	-0.401	0.245	-1.638	0.102
$[X_{Turnover}=2]$	0.001	0.243	0.003	0.998
$[X_{Turnover}=3]$	-0.077	0.211	-0.364	0.716
$[X_{Turnover}=4]$	0.126	0.185	0.680	0.497
$[X_{Turnover}=5]$	-0.089	0.226	-0.395	0.693
$[X_{Turnover}=7]$	0[a]			
$[X_{Concessions}=1]$	-0.108	0.160	-0.674	0.501
$[X_{Concessions}=2]$	0[a]			
$[X_{Education}=1]$	-0.159	0.183	-0.870	0.385
$[X_{Education}=2]$	-0.226	0.212	-1.067	0.287
$[X_{Education}=3]$	-0.607	0.321	-1.893	0.059
$[X_{Education}=4]$	-0.282	0.255	-1.104	0.270
$[X_{Education}=5]$	0[a]			
$[X_{AccKnowledge}=1]$	0.062	0.301	0.205	0.838
$[X_{AccKnowledge}=2]$	-0.224	0.187	-1.200	0.231
$[X_{AccKnowledge}=3]$	0.228	0.185	1.233	0.218
$[X_{AccKnowledge}=4]$	0[a]			
$[X_{Outsourcing}=1]$	0.133	0.181	0.739	0.460
$[X_{Outsourcing}=2]$	0[a]			
$[X_{AccSystem}=1]$	-0.263	0.605	-0.435	0.663
$[X_{AccSystem}=2]$	-0.157	0.296	-0.530	0.596
$[X_{AccSystem}=3]$	0[a]			

a. This parameter is set to zero because it is redundant.

* Significant at the 5% level
** Significant at the 1% level

Model 2 – CGT

Parameter Estimates

Dependent Variable: Q12d_Total_Ln

Parameter	B	Std. Error	t	Sig.
Intercept	2.250	0.089	25.230	<0.001**
$[X_{Sector}=1]$	-0.071	0.170	-0.415	0.678
$[X_{Sector}=2]$	0.134	0.184	0.730	0.465
$[X_{Sector}=3]$	-0.229	0.159	-1.438	0.151
$[X_{Sector}=4]$	-0.111	0.163	-0.685	0.494
$[X_{Sector}=5]$	-0.515	0.198	-2.600	0.009*
$[X_{Sector}=6]$	-0.251	0.112	-2.243	0.025*
$[X_{Sector}=7]$	0[a]			
$[X_{Age}=1]$	0.228	.101	2.248	0.025*
$[X_{Age}=2]$	0[a]			

a. This parameter is set to zero because it is redundant.

* Significant at the 5% level
** Significant at the 1% level

3.5 Turnover tax

Tables 9 and 10 set out the findings of the regression analyses (Model 1 and Model 2) performed in respect of the internal hours spent on the turnover tax. A significant portion of the variation in the dependent variable (hours) is explained by the regression model ($F=1.816$; $df1=29$; $df2=1575$; $p<0.05$). The coefficient of determination (R^2) is 0.096; thus 9.6% of the variation in the internal hours spent on tax compliance activities is explained by this model. This is low, indicating that there are other factors that have an effect on internal tax compliance costs in respect of the turnover tax. Additional research would need to be done in order to determine what exactly these factors are. As this is beyond the scope of the current study, these factors are not further pursued. The coefficient of determination is low, but it was still considered valuable to report the findings of the model.

Only the age (X_{Age}) and turnover ($X_{Turnover}$) of the business were found to be significant determinants of the number of hours spent on internal tax compliance for turnover tax.

The fact that **turnover** was a significant determinant is understandable, because in terms of the *Income Tax Act* (South Africa, 1962), this tax is only applicable to businesses with a qualifying turnover of R1 million or less. If only those businesses with a turnover of R1 million or less are analysed, it is evident that the smallest businesses (those with a turnover of less than R245,000) spent the least amount of time on this tax. The number of hours increases as the size of the business increases (confirming the hypothesis) – most likely due to an increase in the administrative and recordkeeping requirements.

In respect of the **age** of the business, it was found that the younger businesses ($X_{Age}=1$) spent more time on the turnover tax than the older ones (hypothesis contradicted). This again indicates that perhaps a lack of experience results in more time having to be spent on education and understanding the legislation before it can be applied.

If Model 1 is compared to Model 2, it is evident that the signs remain the same for each variable and all continue to be statistically significant at the conventional level.

Table 9: Turnover Tax: Test of between-subject effects – Model 1 and Model 2

Model 1 – Turnover Tax

Tests of Between-Subjects Effects

Dependent Variable: Q12e_Total_Ln

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	166.626[a]	29	5.746	1.816	0.006*
Intercept	122.292	1	122.292	38.655	<0.001**
$X_{Employees}$	9.622	1	9.622	3.042	0.082
X_{Sector}	12.454	6	2.076	0.656	0.685
$X_{LegalForm}$	24.163	5	4.833	1.528	0.180
X_{Age}	20.043	1	20.043	6.335	0.012*
$X_{Turnover}$	44.192	5	8.838	2.794	0.017*
$X_{Concessions}$	11.314	1	11.314	3.576	0.059
$X_{Education}$	2.855	4	0.714	0.226	0.924
$X_{AccKnowledge}$	15.315	3	5.105	1.614	0.185
$X_{Outsourcing}$	4.244	1	4.244	1.341	0.247
$X_{AccSystem}$	0.308	2	0.154	0.049	0.952
Error	1 575.493	498	3.164		
Total	5 351.612	528			
Corrected Total	1 742.119	527			

a. R Squared=0.096 (Adjusted R Squared=0.043)

* Significant at the 5% level
** Significant at the 1% level

Model 2 – Turnover tax

Tests of Between-Subjects Effects

Dependent Variable: Q12e_Total_Ln

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	99.022[a]	6	16.504	5.388	<0.001**
Intercept	6 642.861	1	6 642.861	2 168.785	<0.001**
X_{Age}	20.934	1	20.934	6.835	0.009*
$X_{Turnover}$	93.544	5	18.709	6.108	<0.001**
Error	3 553.013	1 160	3.063		
Total	11 969.914	1 167			
Corrected Total	3 652.034	1 166			

a. R Squared=0.027 (Adjusted R Squared=0.022)

* Significant at the 5% level
** Significant at the 1% level

Table 10: Turnover Tax: Parameter estimates – Model 1 and Model 2

Model 1 – Turnover Tax

Parameter Estimates

Dependent Variable: Q12e_Total_Ln

Parameter	B	Std. Error	t	Sig.
Intercept	1.961	0.366	5.351	<0.001**
$X_{Employees}$	0.006	0.003	1.744	0.082
$[X_{Sector}=1]$	0.242	0.320	0.758	0.449
$[X_{Sector}=2]$	0.208	0.371	0.562	0.575
$[X_{Sector}=3]$	0.188	0.305	0.619	0.536
$[X_{Sector}=4]$	0.123	0.388	0.315	0.753
$[X_{Sector}=5]$	-0.384	0.381	-1.007	0.314
$[X_{Sector}=6]$	-0.065	0.242	-0.270	0.788
$[X_{Sector}=7]$	0[a]			
$[X_{LegalForm}=1]$	0.388	0.317	1.223	0.222
$[X_{LegalForm}=2]$	0.031	0.205	0.151	0.880
$[X_{LegalForm}=3]$	-1.608	0.831	-1.935	0.054
$[X_{LegalForm}=4]$	-0.893	0.758	-1.178	0.239
$[X_{LegalForm}=5]$	-0.036	0.560	-0.065	0.948
$[X_{LegalForm}=6]$	0[a]			
$[X_{Age}=1]$	0.475	0.189	2.517	0.012*
$[X_{Age}=2]$	0[a]			
$[X_{Turnover}=1]$	-0.388	0.312	-1.245	0.214
$[X_{Turnover}=2]$	0.176	0.303	0.581	0.561
$[X_{Turnover}=3]$	0.196	0.266	0.735	0.462
$[X_{Turnover}=4]$	0.552	0.229	2.409	0.016*
$[X_{Turnover}=5]$	0.690	0.272	2.534	0.012*
$[X_{Turnover}=7]$	0[a]			
$[X_{Concessions}=1]$	0.390	0.206	1.891	0.059
$[X_{Concessions}=2]$	0[a]			
$[X_{Education}=1]$	-0.020	0.208	-0.097	0.923
$[X_{Education}=2]$	-0.020	0.233	-0.087	0.931
$[X_{Education}=3]$	-0.272	0.602	-0.452	0.652
$[X_{Education}=4]$	0.210	0.290	0.725	0.469
$[X_{Education}=5]$	0[a]			
$[X_{AccKnowledge}=1]$	-0.030	0.318	-0.095	0.924
$[X_{AccKnowledge}=2]$	-0.239	0.203	-1.175	0.240
$[X_{AccKnowledge}=3]$	-0.557	0.276	-2.016	0.044*
$[X_{AccKnowledge}=4]$	0[a]			
$[X_{Outsourcing}=1]$	0.269	0.232	1.158	0.247
$[X_{Outsourcing}=2]$	0[a]			
$[X_{AccSystem}=1]$	-0.059	0.663	-0.089	0.929
$[X_{AccSystem}=2]$	-0.094	0.309	-0.304	0.761
$[X_{AccSystem}=3]$	0[a]			

a. This parameter is set to zero because it is redundant.

* Significant at the 5% level
** Significant at the 1% level

Model 2 – Turnover tax

Parameter Estimates

Dependent Variable: Q12e_Total_Ln

Parameter	B	Std. Error	t	Sig.
Intercept	2.403	0.104	23.068	<0.001**
$[X_{Age}=1]$	0.315	0.120	2.614	0.009
$[X_{Age}=2]$	0[a]			
$[X_{Turnover}=1]$	-0.292	0.180	-1.621	0.105
$[X_{Turnover}=2]$	0.218	0.180	1.208	0.227
$[X_{Turnover}=3]$	0.034	0.167	0.205	0.838
$[X_{Turnover}=4]$	0.507	0.152	3.341	0.001**
$[X_{Turnover}=5]$	0.585	0.169	3.460	0.001**
$[X_{Turnover}=7]$	0[a]			

a. This parameter is set to zero because it is redundant.

* Significant at the 5% level
** Significant at the 1% level

3.6 Customs duty

The regression analyses (Model 1 and Model 2) displayed in the tables overleaf indicate that a significant portion of the variation in the dependent variable (hours) is explained by the regression model ($F=1.529$; $df1=29$; $df2=691$; $p<0.05$). The coefficient of determination (R^2) is 0.148. Thus this model explains 14.8% of the variation in the internal hours spent on tax compliance activities. This is the highest coefficient obtained thus far, but it still indicates that there are other factors that have an effect on internal tax compliance costs in respect of customs duty. Additional research needs to be done in order to determine what exactly these factors are. As this is beyond the scope of the current study, these factors are not considered further.

The sector (X_{Sector}) and accounting knowledge ($X_{AccKnowledge}$) were considered significant determinants of the number of hours spent on internal tax compliance in respect of customs duty.

Although none of the **sectors** individually had a statistically significant effect on the hours spent on customs duty (Model 1), the manufacturing sector ($X_{Sector}=1$) had the smallest p value ($p=0.055$). Model 2, however, confirms that this sector is a significant determinant of customs duty ($p=0.009$) – disproving the hypothesis. This result is plausible because this sector produces, exports and imports goods to be used in the manufacturing process. Thus, businesses in this sector ought to spend time complying with this tax.

In terms of Model 1, persons with basic bookkeeping knowledge ($X_{AccKnowledge}=2$) spent the least amount of time on this tax, probably because it is a specialised tax requiring the time of more skilled individuals in the business. However, the regression reveals that persons with no **accounting knowledge** ($X_{AccKnowledge}=1$) spent the most time on this tax, seemingly refuting the above explanation. Reasons for this could be that accounting knowledge has little bearing on the time spent on customs duties. Compliance with this tax rather requires knowledge about procedures and forms (administrative knowledge). Otherwise, this finding reveals that these individuals spent more time on this tax (than perhaps a person with accounting knowledge would have) because they do not have accounting knowledge. Model 2 goes some way toward explaining this conundrum, as it indicates that the accounting knowledge of a person is no longer a significant determinant of customs duty. The hypothesis is thus neither proved nor disproved.

Table 11: Customs: Test of between-subject effects – Model 1 and Model 2

Model 1 – Customs

Tests of Between-Subjects Effects

Dependent Variable: Q12f_Total_Ln

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	120.270[a]	29	4.147	1.529	0.045*
Intercept	63.248	1	63.248	23.325	<0.001**
$X_{Employees}$	2.968	1	2.968	1.094	0.296
X_{Sector}	36.029	6	6.005	2.214	0.042*
$X_{LegalForm}$	24.083	5	4.817	1.776	0.118
X_{Age}	9.249	1	9.249	3.411	0.066
$X_{Turnover}$	14.637	5	2.927	1.080	0.372
$X_{Concessions}$	6.557	1	6.557	2.418	0.121
$X_{Education}$	7.120	4	1.780	0.656	0.623
$X_{AccKnowledge}$	28.171	3	9.390	3.463	0.017*
$X_{Outsourcing}$	1.450	1	1.450	0.535	0.465
$X_{AccSystem}$	1.517	2	0.759	0.280	0.756
Error	691.474	255	2.712		
Total	2 528.236	285			
Corrected Total	811.744	284			

a. R Squared=0.148 (Adjusted R Squared=0.051)

* Significant at the 5% level
** Significant at the 1% level

Model 2 – Customs

Tests of Between-Subjects Effects

Dependent Variable: Q12f_Total_Ln

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	54.003[a]	9	6.000	2.113	0.027*
Intercept	1 483.375	1	1 483.375	522.474	<0.001**
X_{Sector}	38.620	6	6.437	2.267	0.036*
$X_{AccKnowledge}$	19.870	3	6.623	2.333	0.073
Error	1 777.298	626	2.839		
Total	5 748.954	636			
Corrected Total	1 831.302	635			

a. R Squared=0.029 (Adjusted R Squared=0.016)

* Significant at the 5% level
** Significant at the 1% level

Table 12: Customs: Parameter estimates – Model 1 and Model 2

Model 1 – Customs

Parameter Estimates

Dependent Variable: Q12f_Total_Ln

Parameter	B	Std. Error	t	Sig.
Intercept	1.614	0.462	3.493	0.001**
$X_{Employees}$	-0.006	0.006	-1.046	0.296
$[X_{Sector}=1]$	0.710	0.369	1.925	0.055
$[X_{Sector}=2]$	-0.036	0.687	-0.053	0.958
$[X_{Sector}=3]$	-0.104	0.413	-0.252	0.801
$[X_{Sector}=4]$	0.960	0.508	1.889	0.060
$[X_{Sector}=5]$	-0.514	0.559	-0.919	0.359
$[X_{Sector}=6]$	0.518	0.327	1.584	0.114
$[X_{Sector}=7]$	0[a]			
$[X_{LegalForm}=1]$	0.711	0.413	1.721	0.087
$[X_{LegalForm}=2]$	0.451	0.248	1.819	0.070
$[X_{LegalForm}=3]$	-0.821	1.002	-0.819	0.413
$[X_{LegalForm}=4]$	3.266	1.728	1.890	0.060
$[X_{LegalForm}=5]$	-0.292	0.798	-0.366	0.715
$[X_{LegalForm}=6]$	0[a]			
$[X_{Age}=1]$	0.441	0.239	1.847	0.066
$[X_{Age}=2]$	0[a]			
$[X_{Turnover}=1]$	-0.449	0.394	-1.139	0.256
$[X_{Turnover}=2]$	-0.118	0.436	-0.269	0.788
$[X_{Turnover}=3]$	0.251	0.386	0.650	0.516
$[X_{Turnover}=4]$	0.359	0.276	1.298	0.195
$[X_{Turnover}=5]$	0.462	0.329	1.403	0.162
$[X_{Turnover}=7]$	0[a]			
$[X_{Concessions}=1]$	0.403	0.259	1.555	0.121
$[X_{Concessions}=2]$	0[a]			
$[X_{Education}=1]$	-0.344	0.276	-1.248	0.213
$[X_{Education}=2]$	-0.314	0.303	-1.037	0.301
$[X_{Education}=3]$	-0.516	0.615	-0.840	0.402
$[X_{Education}=4]$	-0.303	0.428	-0.706	0.481
$[X_{Education}=5]$	0[a]			
$[X_{AccKnowledge}=1]$	0.879	0.466	1.885	0.061
$[X_{AccKnowledge}=2]$	-0.604	0.271	-2.229	0.027*
$[X_{AccKnowledge}=3]$	-0.242	0.323	-0.749	0.455
$[X_{AccKnowledge}=4]$	0[a]			
$[X_{Outsourcing}=1]$	0.214	0.293	0.731	0.465
$[X_{Outsourcing}=2]$	0[a]			
$[X_{AccSystem}=1]$	-0.641	0.950	-0.674	0.501
$[X_{AccSystem}=2]$	0.158	0.511	0.310	0.757
$[X_{AccSystem}=3]$	0[a]			

a. This parameter is set to zero because it is redundant.

* Significant at the 5% level
** Significant at the 1% level

Model 2 – Customs

Parameter Estimates

Dependent Variable: Q12f_Total_Ln

Parameter	B	Std. Error	t	Sig.
Intercept	2.267	0.188	12.085	<0.001**
$[X_{Sector}=1]$	0.610	0.232	2.634	0.009*
$[X_{Sector}=2]$	-0.106	0.346	-0.307	0.759
$[X_{Sector}=3]$	0.072	0.257	0.280	0.779
$[X_{Sector}=4]$	0.158	0.336	0.469	0.639
$[X_{Sector}=5]$	-0.312	0.390	-0.800	0.424
$[X_{Sector}=6]$	0.379	0.201	1.888	0.060
$[X_{Sector}=7]$	0[a]			
$[X_{AccKnowledge}=1]$	0.513	0.284	1.804	0.072
$[X_{AccKnowledge}=2]$	-0.271	0.173	-1.570	0.117
$[X_{AccKnowledge}=3]$	-0.090	0.184	-0.491	0.624
$[X_{AccKnowledge}=4]$	0[a]			

a. This parameter is set to zero because it is redundant.

* Significant at the 5% level
** Significant at the 1% level

3.7 Excise duties and levies

Despite the coefficient of determination ((R^2=0.150), 15% of the variation in the internal hours spent on tax compliance activities is explained by this model. This is the highest in all the models – see the regression analysis (Model 1), displayed in the tables overleaf, which indicates that none of the determinants listed in the hypotheses has a significant influence on the dependent variable (hours) in respect of excise duties and levies (F=0.867; df1=29; df2=142; p>0.05). However, when the individual variables were considered, it was established that the manufacturing and the finance sectors spent the most time on these duties and levies. As with customs duty, the number of hours spent by the manufacturing sector seems to be plausible, as it is the nature of this sector to import and export. The rationale for the finance sector is not so clear-cut and it would require further research to confirm why this is the case. As none of these determinants were significant overall, the Model 2 regression analysis was not run. No further consideration was given to these duties and levies, as they are not one of the major taxes, and were not the focus of this study.

Table 13: Excise: Test of between-subject effects – Model 1

Model 1 – Excise

Tests of Between-Subjects Effects

Dependent Variable: Q12g_Total_Ln

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	88.308[a]	29	3.045	0.867	0.664
Intercept	51.457	1	51.457	14.644	<0.001**
$X_{Employees}$	1.341	1	1.341	0.382	0.538
X_{Sector}	36.975	6	6.163	1.754	0.113
$X_{LegalForm}$	16.095	5	3.219	0.916	0.472
X_{Age}	3.481	1	3.481	0.991	0.321
$X_{Turnover}$	12.441	5	2.488	0.708	0.618
$X_{Concessions}$	10.506	1	10.506	2.990	0.086
$X_{Education}$	5.048	4	1.262	0.359	0.837
$X_{AccKnowledge}$	3.281	3	1.094	0.311	0.817
$X_{Outsourcing}$	1.078	1	1.078	0.307	0.581
$X_{AccSystem}$	2.002	2	1.001	0.285	0.753
Error	498.952	142	3.514		
Total	1 404.088	172			
Corrected Total	587.260	171			

a. R Squared=0.150 (Adjusted R Squared=-0.023)

* Significant at the 5% level
** Significant at the 1% level

Table 14: Excise: Parameter estimates – Model 1

Model 1 – Excise

Parameter Estimates

Dependent Variable: Q12g_Total_Ln

Parameter	B	Std. Error	t	Sig.
Intercept	1.616	0.672	2.404	0.017*
$X_{Employees}$	-0.005	0.009	-0.618	0.538
$[X_{Sector}=1]$	1.266	0.602	2.103	0.037*
$[X_{Sector}=2]$	0.589	0.947	0.622	0.535
$[X_{Sector}=3]$	0.313	0.660	0.475	0.636
$[X_{Sector}=4]$	1.546	0.727	2.127	0.035*
$[X_{Sector}=5]$	-0.431	0.777	-0.555	0.580
$[X_{Sector}=6]$	0.758	0.495	1.533	0.128
$[X_{Sector}=7]$	0[a]			
$[X_{LegalForm}=1]$	0.105	0.692	0.152	0.879
$[X_{LegalForm}=2]$	0.119	0.382	0.311	0.756
$[X_{LegalForm}=3]$	-0.188	1.422	-0.132	0.895
$[X_{LegalForm}=4]$	3.299	2.028	1.627	0.106
$[X_{LegalForm}=5]$	-1.336	1.075	-1.242	0.216
$[X_{LegalForm}=6]$	0[a]			
$[X_{Age}=1]$	0.360	0.362	0.995	0.321
$[X_{Age}=2]$	0[a]			
$[X_{Turnover}=1]$	-0.649	0.558	-1.163	0.247
$[X_{Turnover}=2]$	0.028	0.598	0.048	0.962
$[X_{Turnover}=3]$	0.122	0.588	0.207	0.837
$[X_{Turnover}=4]$	-0.232	0.426	-0.545	0.586
$[X_{Turnover}=5]$	0.430	0.521	0.827	0.410
$[X_{Turnover}=7]$	0[a]			
$[X_{Concessions}=1]$	0.704	0.407	1.729	0.086
$[X_{Concessions}=2]$	0[a]			
$[X_{Education}=1]$	0.099	0.431	0.230	0.819
$[X_{Education}=2]$	-0.311	0.494	-0.629	0.530
$[X_{Education}=3]$	-0.793	0.878	-0.903	0.368
$[X_{Education}=4]$	-0.175	0.616	-0.283	0.777
$[X_{Education}=5]$	0[a]			
$[X_{AccKnowledge}=1]$	0.297	0.696	0.426	0.671
$[X_{AccKnowledge}=2]$	-0.249	0.424	-0.588	0.557
$[X_{AccKnowledge}=3]$	0.215	0.443	0.484	0.629
$[X_{AccKnowledge}=4]$	0[a]			
$[X_{Outsourcing}=1]$	-0.244	0.441	-0.554	0.581
$[X_{Outsourcing}=2]$	0[a]			
$[X_{AccSystem}=1]$	0.081	1.343	0.060	0.952
$[X_{AccSystem}=2]$	0.666	0.883	0.755	0.452
$[X_{AccSystem}=3]$	0[a]			

a. This parameter is set to zero because it is redundant.

* Significant at the 5% level

** Significant at the 1% level

3.8 Summary of determinants of the hours spent on internal tax compliance activities

To provide a holistic picture of the determinants of the hours spent on internal tax compliance activities, the variables that were considered significant in Model 1 and that were re-run in Model 2 are summarised per tax in Table 15.

Table 15: Summary of significant determinants of internal tax compliance costs – Model 1

	Taxes						
	VAT	**Income tax**	**PAYE**	**CGT**	**TT**	**Customs**	**Excise**
Significant determinants							
Number of employees			X				
Sector				X		X	
Legal form	X	X					
Age				X	X		
Turnover	X	X	X		X		
Small business tax concession							
Level of education of respondent		X					
Accounting knowledge		X	X			X*	
Use of external service provider	X		X				
Type of accounting system used	X						
F value	4.278	2.246	4.495	1.688	1.816	1.429	0.867
Significance	0.000	0.000	0.000	0.014	0.008	0.045	0.017
Adjusted R^2	0.048	0.019	0.048	0.033	0.043	0.051	-0.023

* This was not regarded as a significant determinant in Model 2

The fact that PAYE is the only tax for which **number of employees** is a significant determinant is understandable, because this tax is calculated based on the remuneration paid by a business to each of its employees. It is also evident that the number of employees does not have as significant an effect on internal tax compliance activities as turnover does. The results indicate that the size of the business has a bearing on the tax compliance costs incurred by small businesses, and this finding strengthens this current study's argument for using turnover as an indicator of the size of a business.

Although the hypothesis was that the **sector** in which a business operates should not have an influence on the tax compliance costs (hours), the findings of this study suggest that the hypothesis needs to be rejected in respect of CGT and customs duty, where the construction and manufacturing industries respectively have a significant effect on the number of hours spent on internal tax compliance activities.

The **legal form** of a business has a significant influence on the number of hours spent on VAT and income tax compliance activities. The analysis reveals that sole proprietors spent the most time on these two taxes, which is in line with the hypothesis.

The **age** of the business has a significant influence on the number of hours spent on CGT and turnover tax compliance activities. The hypothesis that younger businesses spend less time on internal tax compliance activities than older ones is rejected. The lack of experience or knowledge of the younger firms in respect of these two taxes could be one of the reasons for this finding, and it appears to be to their disadvantage.

The determinant that has a significant influence on the most taxes is **turnover**. All the taxes, excluding only CGT, customs and excise duties, are significantly affected by turnover. The hypothesis that as the turnover increases so do the hours spent on internal tax compliance activities is thus confirmed.

Using small business tax concessions was found not to have a significant impact on the internal hours spent on tax compliance activities, which meant that the hypothesis that the internal hours would increase if small business tax concessions are used could not be rejected. The results of the small business tax compliance cost study (Smulders *et al*., 2012:212) confirm this hypothesis as it was found that there is a perception that using small business tax concessions has resulted in a direct increase in small businesses' internal tax compliance costs. These findings should, however, not be viewed in isolation as not all small business tax concessions were introduced to have a direct impact on internal tax compliance costs but rather to provide other (substantial) benefits in the form of immediate tax savings through a lower tax rate and accelerated allowances. It is reported in the 2013 Budget Review that the tax saving attributable to the small business corporation incentive amounted to R1 343 billion (South Africa, 2013:179). Other organisations, such as the International Monetary Fund (IMF), have found that South African tax law contains world-class incentives for small businesses. Finally, when a small business make use of the small business tax concessions the external tax compliance costs might decrease as using the concessions perhaps mitigates the need for the services of an external service

provider (this is the objective of the turnover tax, for instance). More in-depth research on the effect of the small business concessions is warranted.

The **level of education** of the taxpayer only had a significant influence on the time taken to comply with income tax, whereas the **accounting knowledge** of a taxpayer had a significant influence on income tax and PAYE compliance time. The higher the qualification (level of education) and the more accounting knowledge a taxpayer had, the more time was spent on tax compliance activities. These findings confirm the hypothesis in respect of the level of education (the higher the level of education, the more time is spent on tax compliance), but means that the hypothesis can be rejected in respect of accounting knowledge (the higher the level of accounting knowledge, the lower the time spent on internal tax compliance).

VAT and PAYE are the taxes for which the use of **external service providers** have a most significant influence on the hours spent internally on tax compliance. The influence is not a positive one – the hypothesis had to be rejected as the internal hours spent on these two taxes increased even when the services of an external provider were obtained. A possible explanation for this can be that the use of external service providers leads to a duplication of work and effort. More research into the extent of outsourcing would need to be undertaken in order to reach a definitive conclusion on this matter.

The **type of accounting system** used was only a significant determinant for VAT. The hypothesis in this instance was accepted, and it indicates that the use of a computerised system increases the in-house time needed to comply with VAT obligations.

4. CONCLUSION

The statistically significant determinants of internal tax compliance costs determinants included the following: number of employees (PAYE), sector (CGT and income tax), legal form (VAT and income tax), age of the business (CGT and turnover tax), turnover (VAT, income tax, PAYE and turnover tax), the level of education of the respondent (income tax), the accounting knowledge of the respondent (income tax and PAYE), the use of an external service provider (VAT and PAYE) and the type of accounting system used (VAT). In relation to these determinants, the following was established:

- Although Reekmans and Simoens (2010:36) established that the sector in which a small business operates is not a significant determinant of internal tax compliance costs, in the current study, it was found that the internal hours spent on CGT and customs duty compliance were significant for the construction (CGT) and the manufacturing (customs duty) sectors.

- Using an external service provider did not appear to decrease the internal time spent by a business on tax compliance activities in respect of VAT and PAYE, as Coolidge *et al*. (2009:26) suggested.
- The higher the accounting knowledge of the taxpayer, the higher the time spent on internal tax compliance activities in respect of income tax and PAYE, this is in contradiction to the findings of Blaufus *et al*. (2011:11).
- The more qualified the taxpayer, the more time is spent on income tax compliance activities. This finding supports the results of Blaufus *et al*. (2011:11).
- Sole proprietors spend more time on VAT and income tax compliance activities than any other form of entity does. This finding also confirms the results obtained by Blaufus *et al*. (2011:10).
- In line with the findings by Hasseldine and Hansford (2002:382), the current study found that the use of a computerised accounting system increased the amount of time spent on internal VAT compliance activities.
- Businesses five years or younger spent more time internally on CGT and turnover tax compliance activities than those older than five years. This finding differs from those of Eichfelder and Schorn (2008:11).

Overall, *turnover* is the variable that had the most significant influence on internal time (as opposed to the *number of employees*, which has a significant effect only on the internal time spent on PAYE). The analysis also showed that there is a higher proportional burden for the smaller businesses in respect of internal income tax and PAYE compliance activities.

5. FUTURE RESEARCH

The impact of the following factors on internal tax compliance costs could be considered in the future as they were found to have an impact on these costs but were not addressed in this article:

- province (Eichfelder & Schorn, 2008);
- gender and marital status (Blaufus *et al*., 2011);
- psychological factors (Eichfelder & Schorn, 2008; Hasseldine & Hansford, 2002);
- administrative strategy (capital-intensive or personnel-intensive) (Eichfelder & Schorn, 2008, 2009);
- use of electronic data interchange (Eichfelder & Schorn, 2009).

The use of the *small business concessions* factor was the only independent variable in this study that did not have a significant effect on the internal hours needed to comply with any of the taxes' compliance obligations. More in-depth research on the effect of the small business concessions is warranted.

The use of the *external service providers* factor provided interesting results. The internal hours spent on VAT and PAYE increased even when the services of an external provider were obtained. More research into the extent of outsourcing would need to be undertaken in order to reach a definitive conclusion on this matter.

LIST OF REFERENCES

Blaufus, K., Eichfelder, S. & Hundsdoerfer, J. 2011. *The hidden burden of the income tax: compliance costs of German individuals – Discussion Paper*. [Online] Available from: http://edocs.fu-berlin.de/docs/servlets/MCRFile NodeServlet/FUDOCS_derivate_000000001634/discpaper06_11.pdf;jsessionid=8522F470F1928F29EFA8D85FE54472D8?hosts= [Downloaded: 2012-05-16].

Charron, L., Chow, G. & Halbesma, J. 2008. *The hidden tax burden – a business perspective on the cost of complying with taxes*. Canadian Federation of Independent Business. Toronto: Royal Canadian Mint.

Coolidge, J., Ilic, D. & Kisunko, G. 2009. *Small Businesses in South Africa: who outsources tax compliance work and why?* Policy Research Working Paper 4873, World Bank, Investment Climate Department, Regulatory Simplification Division, [Online] Available from: http://www.wds.world bank.org/servlet/WDSContentServer/WDSP/IB/2009/03/23/000158349_20090323132017/Rendered/PDF/WPS4873.pdf [Downloaded: 2010-10-30].

DeLuca, D., Greenland, A., Guyton, J., Hennessey, S. & Kindlon, A. 2005. IBM Consulting Services. *Measuring the Tax Compliance Burden of Small Businesses, Recent Research on Tax Administration and Compliance,* Proceedings of the 2005 IRS Research Conference, June 7-8.

Eichfelder, S. & Schorn, M. 2008. *Tax compliance costs and its determinants: Evidence from German businesses.* [Online] Available from: https://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=iipf64&paper_id=358. [Accessed: 2012-06-10].

Eichfelder, S. & Schorn, M. 2009. Tax compliance costs: a business administration perspective. *Diskussionsbeiträge des Fachbereichs Wirtschaftswissenschaft der Freien Universität Berlin,* 2009(3). [Online] Available from: http://hdl.net/10419/28090 [Accessed: 2011-11-11].

Evans, C. 2006. *Counting the costs of taxation: an exploration of recent developments.* Sydney: University of New South Wales.

Evans, C. 2008. Taxation compliance and administrative costs: an overview. In: Lang, M., Obermair, J., Schuch, J., Staringer, C. & Weninger, P. (eds.) *Tax compliance for companies in an enlarged European Community* (pp.447-468). Alphen aan den Rijn: Kluwer Law International.

Evans, C., Ritchie, K., Tran-Nam, B. & Walpole, M. 1997. *A report into taxpayer costs of compliance.* Canberra: Australian Government Publishing Service.

Field, A. 2009. *Discovering statistics using SPSS.* 3rd ed. Dubai: Oriental Press.

Freedman, J. 2006. Why taxing the micro-business is not that simple: a cautionary tale from the 'old world'. *Journal of the Australasian Tax Teachers Association,* 2(1):55-77. [Online] Available from: http://www.asb.unsw.edu.au/schools/taxationandbusinesslaw/atta/attajournal/Documents/5_Freedman_JATTA_vol2_no1.pdf [Downloaded: 2011-11-10].

Freedman, J. 2009. Reforming the business tax system: Does size matter? Fundamental issues in small business taxation. In: Evans, C & Krever, R. (eds.) *Australian Business tax reform in retrospect and prospect.* Sydney: Thomson Reuters.

Guyton, J.L., O'Hare, J.F., Stavrianos, M.P. & Toder, E.J. 2003. Estimating the compliance costs of the US individual income tax. *National Tax Journal* LVI-3(September 2003):673-688. [Online] Available from: http://www.irs.gov/pub/irs-soi/toder.pdf [Downloaded: 2012-05-21].

Hasseldine, J. & Hansford, A. 2002. The compliance burden of VAT: further evidence from the UK. *Australian Tax Forum,* 17(4):369-388.

Klun, M. & Blazic, H. 2005. Tax compliance costs for companies in Slovenia and Croatia. *Public Finance Analysis*, 61(3):418-437. [Online] Available from: http://www.jstor.org/stable/10.2307/40913085 [Accessed: 2012-03-07].

Murphy, J., Hashim, N.H. & O'Connor, P. 2007. Take me back: validating the wayback machine. *Journal of Computer-Mediated Communication,* 13(1): article 4. [Online] Available from: http://jcmc.indiana.edu/vol13/
issue1/murphy.html [Accessed: 2012-06-12].

Murugan, S. (smurugan@sars.gov.za) 2011a. Confirmation of numbers. [E-mail to:] Smulders, S.A. (sharon.smulders@up.ac.za) 1 June 2011.

Murugan, S. (smurugan@sars.gov.za) 2011b. RE:Turnover Taxpayers. E-Mail Addresses. [E-mail to:] Smulders, S.A. (Sharon.smulders@up.ac.za) 22 July 2011.

OECD. 2009. *Taxation for SMEs – key issues and policy considerations*. Paris: OECD Publication Service.

OECD. 2010. *Auditing small and medium sized enterprises 7. Importance of SMEs.* Accra: Centre for Tax Policy and Administration.

Pope, J. 2008. Favourable small business taxation: to what extent is it justified from a tax policy perspective? *Journal of Applied Law and Policy, 2*(1):21-34. [Online] Available from: http://www.austlii.edu.au/au/journals/JlAppLawP/2008/2.html [Accessed: 2012-05-21].

Reekmans, C. & Simoens, G. 2010. *How high are the tax compliance costs for Belgian SMEs.* Unpublished Masters dissertation. Ghent: Ghent University.

Rhone, 2011. *Foundation vs trust purposes, similarities & differences of these estate planning vehicles.* [Online] Available from: http://www.rhoneservices.com/ images/pdf/Foundation_vs_Trust.pdf [Downloaded: 2011-08-02].

Saunders, M., Lewis, P. & Thornhill, A. 2007. *Research methods for business students.* 4th ed. Harlow: Pearson Education.

SBP. 2005. *Counting the cost of red tape for business in South Africa – Main Report, June 2005.* Johannesburg: Strategic Business Partnerships.

SBP. 2011. Headline report of SBP's SME growth index, priming the soil, small business in South Africa, November 2011. Johannesburg: SBP.

Smulders, S. Stiglingh, M. Franzsen R. & Fletcher, L. 2012. Tax compliance costs for the small business sector in South Africa- establishing a baseline. *eJournal of Tax Research,* 10(2): 184-226.

South Africa. 1962. Income Tax Act, No.58 of 1962. [Online] Available from: http://www.acts.co.za/tax/index.htm [Accessed: 2011-06-29].

South Africa. 1996. *National Small Enterprise Act, No. 102 of 1996.* [Online] Available from: http://www.westerncape.gov.za/Text/2009/9/national _small _enterprise_act_102_of_1991.pdf [Downloaded: 2011-06-29].

South Africa. Department of National Treasury. 2013. *Budget Review*. [Online] Available from: http://www.treasury.gov.za/documents/national%20budget/ 2013/review/ [Downloaded: 2013-05-31].

Tran-Nam, B., Evans, C., Walpole, M. & Ritchie, K. 2000. Tax compliance costs: research methodology and empirical evidence from Australia. *National Tax Journal,* 53(2):229-252.

Turner, J.L., Smith, M. & Gurd, B. 1998. Auditing income tax self-assessment: the hidden cost of compliance. *Journal of Managerial Auditing*, 13(2):95-100. [Online] Available from: Emerald: http://dx.doi.org/10.1108/ 02686909810202782 [Accessed: 2011-07-11]

REPORT 3: DETERMINANTS OF EXTERNAL TAX COMPLIANCE COSTS: EVIDENCE FROM SOUTH AFRICA

1. INTRODUCTION

With an unemployment rate of 25.2% in the first quarter of 2012 (Statistics South Africa, 2011a:vi; Trading Economics, 2012:1), it is evident why the single most critical objective of the South African government's "New Growth Path" is creating employment (National Treasury, 2011:2). To achieve this objective, the government aims to create five million jobs over the next ten years, thereby reducing the unemployment rate from 25% to 15%. The sector of the economy that will predominantly assist government in achieving this objective is the small business sector.

Given the importance of this sector's critical role in the economy, it is a matter of concern that this sector faces various challenges, one of which is the regulatory and legislative burden imposed on small businesses in the form of tax legislation (SBP, 2005:44, SBP 2011:28). From the government's perspective, collecting tax from this sector is vital, but from these businesses' perspective, their tax obligations impose a heavy burden on their businesses (Evans, 2008:449; InvestorWords, n.d.). One of the elements of the tax burden is the tax compliance burden – the amount of time and money (compliance costs) spent in order to comply with tax laws (Charron, Chow & Halbesma, 2008:iv; Coolidge, Ilic & Kisunko, 2009:4; Guyton, O'Hare, Stavrianos & Toder, 2003:676; OECD, 2010:5).

A number of patterns have emerged in various local and international studies regarding tax compliance costs – these include the fact that tax compliance costs are high and regressive: small businesses bear the heaviest burden in relation to their business size; large businesses are better able to absorb these costs, because they have a higher turnover (Colmar Brunton Social Research, 2005:10; Coolidge *et al*., 2009:3; FIAS, 2007:vii; Inland Revenue (New Zealand), 2010:6; OECD, 2009:4; Pope, 2001:1; Rametse, 2010:5; SBP, 2005:42; Tran-Nam, Evans, Walpole & Ritchie, 2000:230).

According to Evans (2006:3) and the OECD (2009:16) tax compliance costs include not only the value of the time taken by the owners and employees of a business (internal costs) to comply with tax legislation, but also the money spent by these businesses on external service providers (accountants, bookkeepers, tax practitioners, lawyers) to assist with the business's tax compliance obligations (external costs).

Based on the findings of various studies (Coolidge *et al*., 2009; De Clercq, Tustin & Venter, 2006; FIAS, 2007; SBP, 2005:49; Smulders, Stiglingh, Franzsen & Fletcher, 2012: 202; Tustin, Abrie, Basson, De Clerq, De Hart, Doussy, Graham, Hammel Howell, Olivier, Posthumus, Steyn, Swanepoel, Ungerer, Venter & Wentzel, 2005:114; Upstart Business Strategies, 2004:36; Venter & De Clercq,

2007), it is estimated that between 60% and 80% of South African businesses use tax practitioners to help them with their tax compliance obligations. Payments to external service providers thus clearly affect the cost of tax compliance (Roth, Scholz & White, 1989:171). These findings provide support for investigating the determinants of external tax compliance costs incurred by South African small businesses.

Prior literature in South Africa has failed to systematically analyse the determinants of external tax compliance costs using regression analyses techniques – analyses in tax compliance cost studies are typically confined to descriptive analyses (Blaufus, Eichfelder & Hundsdoerfer, 2011:2; FIAS, 2008:70). This is the first South African study, and one of the few international studies, to perform a regression analysis on the results obtained from a tax compliance costs study in order to investigate the key drivers of external tax compliance costs (Blaufus *et al*., 2011:2; Eichfelder & Schorn, 2008:2).

This study aims to provide insight into the determinants (key drivers) of external tax compliance costs for small businesses by using regression analyses (Eichfelder & Schorn, 2008:2). The regression analyses will assist in identifying the possible determinants that could influence external tax compliance costs and to determine what factors have the largest influence on the levels of these costs (Eichfelder & Schorn, 2008:2).

A regression analysis was performed on the results obtained from an empirical study on the tax compliance costs incurred by small businesses in South Africa conducted in 2011 (Smulders *et al.*, 2012). That study adopted a deductive research approach using a survey strategy (Saunders, Lewis & Thornbill, 2007:119-122, 138). The study was conducted by means of an electronic questionnaire distributed by the the South African Revenue Services (SARS) to 88 057 small businesses (turnover of R14 million or less) registered with SARS and for which SARS had an e-mail address at the time the questionnaire was distributed (Murugan, 2011a).

As the whole target population (as described above) was selected, no statistical sampling techniques were used in that study. The number of usable questionnaires received amounted to 5 865, representing a response rate of 6.7%. Saunders *et al*. (2007:358) indicates that internet based surveys are likely to have a response rate of 11% or lower, however, it must be mentioned that the electronic survey platform used to distribute the questionnaire could unfortunately not determine how many of the e-mails that were sent out were undeliverable (Murugan, 2011b:2). This could have had a major effect on the response rate and consideration should be given to this fact before concluding on the response rate. Although one can therefore not come to any definite conclusions about how representative and statistically reliable the sample was, 5 865 responses should nevertheless provide invaluable

information and insight into an area where there is currently no reliable and up to date statistical information available.

The remainder of the article will first describe the methodology used for the regression analysis. The results will be presented next. Thereafter the conclusions will be documented and the need for future research highlighted.

2. METHODOLOGY USED FOR THE REGRESSION ANALYSIS

2.1 Regression analysis

Field (2009:198) describes a regression analysis as a statistical tool used to examine the relationship between variables (anything that can be measured) by ascertaining the casual effect of one variable upon another single variable (simple regression) or upon more than one variable (multiple regression). A multiple regression analysis was considered an appropriate tool for the analysis of external tax compliance costs because analyses of this nature are typically used to show the applied value of research findings (Murphy, Hashim & O'Connor, 2007:3).

In order to determine the variables (called the independent variables or explanatory variables – predictors) that have an effect on the external tax compliance costs (called the dependent variables), the results of the small business tax compliance cost study were considered and a review of the literature was performed in order to develop hypotheses about the independent variables that could possibly have an effect on external tax compliance costs, as suggested by Eichfelder and Schorn (2008:5). The hypotheses and choice of independent variables were selected based on the findings of the small business tax compliance cost study, as well as on past research (Field, 2009:212). The Rand value of the external tax compliance costs incurred by the small business respondents were used as the dependent variable for the use of external tax services.

Having established hypotheses about the determinants (the independent variables) of external tax compliance costs from the current study's results and the literature (discussed below), the assumed influence of these variables on the tax compliance costs were investigated using the General Linear Model (GLM) procedure in Statistical Package for the Social Sciences (SPSS). Although other international tax compliance costs studies have used other forms of multiple regression – such as the Ordinary Least Squares method (Blaufus *et al*., 2011:8; Hasseldine & Hansford, 2002:380) and the logarithmic GLS model (Eichfelder & Schorn, 2009:11) – to estimate the effect of various independent variables on the tax compliance costs, it was decided to use the GLM in the current study because it readily accommodates both categorical and continuous predictors.

Following the approach used by Hasseldine and Hansford (2002:381), once the initial regression analysis (for external costs) had been performed and the results analysed, the analyses were re-run but this time including only those independent variables that were found to be significant in the first regression analysis. This was done to determine whether the model specifications were robust or not. The results from all these analyses are discussed below after the hypotheses and regression models used have been explained.

2.2 Hyphotheses

A hypothesis is a prediction about the state of the world (Field, 2009:787). A regression analysis tests hypotheses – by determining which predictor variables (independent variables) contribute substantially to the regression model's ability to predict the outcome (dependent variable), or explain the variability in the dependent variable. Predictor variables should only be included in a regression analysis if there are sound theoretical reasons for expecting them to influence the dependent variable (Field, 2009:225). In order to determine the variables that could influence external tax compliance costs, a review of the literature was performed.

The literature revealed that most of the studies that used a regression analysis to determine the influence of hypothesised variables on tax compliance costs did so in general and not per tax (DeLuca, Greenland, Guyton, Hennessey & Kindlon, 2005; Eichfelder & Schorn, 2008; Reekmans & Simoens, 2010). Due to the lack of additional information in this regard, applying the findings of these studies to the external tax compliance costs is considered appropriate and it can thus be argued that the following variables have an influence on external tax compliance costs:

- business size (Coolidge *et al*., 2009);
- sector (Eichfelder & Schorn, 2008; Hasseldine & Hansford, 2002; Reekmans & Simoens, 2010);
- legal form (Blaufus *et al*., 2011; Coolidge *et al*., 2009; DeLuca *et al*., 2005);
- business age (Eichfelder & Schorn, 2008);
- use of small business tax concessions (Freedman, 2006, 2009; Pope, 2008);
- level of education of business owners/employees (Blaufus *et al*., 2011);
- accounting knowledge of business owners/employees (Blaufus *et al*., 2011);
- type of accounting system used (Coolidge *et al*., 2009; Hasseldine & Hansford, 2002);
- province (Eichfelder & Schorn, 2008);
- gender and marital status (Blaufus *et al*., 2011);
- psychological factors (Eichfelder & Schorn, 2008; Hasseldine & Hansford, 2002);

- administrative strategy (capital-intensive or personnel-intensive) (Eichfelder & Schorn, 2008, 2009);
- use of electronic data interchange (Eichfelder & Schorn, 2009).

The information in relation to the last five abovementioned points was not considered in the current study. The primary reason for this being that the questionnaire was already considerably long without their inclusion. Research in these areas can therefore be considered in the future.

Using the information in the remaining bullet points and the results obtained from this study – that the external tax compliance costs involved in complying with tax legislation increase as business size increases – the following hypotheses were derived:

- **Business size** – As the size of the business increases, the absolute external tax compliance costs also increase (Coolidge *et al.*, 2009:3). Three measures of business size can be used – turnover, number of employees and gross asset value (South Africa, 1996). As the information relating to only two of these measures was available from the data of the current study, only **turnover** and **number of employees** could be considered. To determine which one of these variables has a stronger impact on tax compliance hours/costs, both variables were included in the analysis.
- **Sector** – The sector in which a small business operates is not a significant determinant of external tax compliance costs (Reekmans & Simoens, 2010:36). However, Hasseldine and Hansford (2002:382) found that some sectors (such as manufacturing, services and dealing in goods sectors) incurred lower VAT compliance costs than other sectors; Eichfelder and Schorn (2008:14) also found that the services sector had higher tax compliance costs (including the time burden) than the building sector. The results of the current study found that the transport, postal and warehousing sector followed by the mining and electricity, gas, water supply and waste removal sectors were the sectors which paid the most for outsourcing their tax functions in the current study. There was no consistency in the local and international literature regarding the significance of sector on external tax compliance costs. In addition, no other research in South Africa has indicated that the sector has a significant effect on tax compliance costs. Hence, the hypothesis that the sector in which a small business operates is not a significant determinant of tax compliance costs was retained for the purposes of this study's regression analysis.

- **Legal form** – The tax complexity and thus external tax compliance costs for companies, but especially Close Corporations (CCs) in South Africa (Coolidge *et al*., 2009:8) is higher than that of other legal forms (specifically sole proprietors) as these entities (CCs and companies) tend to rely on external service providers to assist with their tax obligations (DeLuca *et al*., 2005).

- **Business age** – Younger businesses incur lower external tax compliance costs than more established businesses. This is due to a lower degree of tax complexity compared to more established businesses (Eichfelder & Schorn, 2008:11).

- **Use of small business tax concessions** – Using the small business tax concessions (SBTCs) increases the external tax compliance costs incurred by small businesses, because the complexity of these concessions result in either more internal time being spent in order to understand and apply these concessions, or an external service provider is employed in order to assist with these functions (Freedman, 2006:59, 2009:156; Pope, 2008:33). The results of the current study confirm this hypothesis as it was found that there is a perception that using SBTCs has resulted in a direct increase in small businesses' external tax compliance costs.

- **Level of education** – External tax compliance costs decrease when the owners/employees have at least a university degree, because they tend to perform these functions themselves rather than obtain external assistance (Blaufus *et al*., 2011:11).

- **Accounting knowledge** – Businesses that have owners/employees who have at least a moderate knowledge of accounting will incur higher external tax compliance costs than those who have no accounting knowledge. This is because these individuals tend to be aware of possible deductions and tax-related problems and are thus more willing to spend money to obtain external support to assist with these areas (Blaufus *et al*., 2011:11).

- **Use of external service provider** – Using the services of an external service provider increases the costs of tax compliance (external tax compliance) compared to a business that does not use these services. The reason for this is because external service providers' fees are higher than the costs of in-house personnel (Blaufus *et al*., 2011:12).

- **Accounting system used** – A business using a computerised accounting system for tax compliance as opposed to a manual system, has lower external tax compliance costs as the system has the ability to provide information that would normally be provided by an external service provider (Coolidge *et al*., 2009:12).

These hypotheses were tested using a multiple regression model, as explained in the next section.

2.3 Regression model

The above hypotheses and the statistical significance of their predicted effect were assessed using the following model for **external tax compliance costs**:

$$Y_{TCC}=b_0+ b_1 \cdot X_{Employees} + b_2 \cdot X_{Sector}+ b_3 \cdot X_{LegalForm}+ b_4 \cdot X_{Age} + b_5 \cdot X_{Turnover} + b_6 \cdot X_{Concessions} + b_7 \cdot X_{Education} + b_8 \cdot X_{AccKnowledge} + b_9 \cdot X_{AccSystem} + e$$

Reference categories for the categorical variables were chosen based on the categories that the majority of the respondents to this survey had chosen. In most instances, the reference categories were also in line with the literature mentioned above, in the hypotheses. The variables contained in this model can be described as follows:

$\mathbf{Y_{TCC}}$ **Tax compliance costs**. This is in essence the outcome to be predicted – what is the effect of each of the independent variables on these external tax compliance costs? The costs (Rand values) of obtaining external advice for tax compliance activities were considered in order to calculate the effect of the independent variables on the external tax compliance costs.

$\mathbf{X_{Employees}}$ The **number of employees** in the business.

$\mathbf{X_{Sector}}$ The **sector** in which the business operated. The various sectors were coded as follows in the regression model – based on the six categories that were the most strongly represented in the current study:

- 1 for the manufacturing sector;

- 2 for the construction sector;
- 3 for the retail sector;
- 4 for the finance and insurance sector;
- 5 for the administrative and support sector;
- 6 for the other sectors (which include, for instance, the transport, postal and warehouse, public administration and safety, mining and electricity, gas, water supply and waste removal sectors); and
- 7 (the reference category) for the professional services sector.

$X_{LegalForm}$ The **legal form** in which the business operated. The various forms were coded as follows in the regression model:

- 1 for a sole proprietor;
- 2 for partnership;
- 3 for a trust;
- 4 for a (Pty) Ltd;
- 5 for the other forms (PBO/NGO, incorporated association, unincorporated association and other); and
- 6 (the reference category) for a CC.

X_{Age} The **age** of the business. The age categories of the businesses were coded as follows in the regression model:

- 1 if the business had been in operation for five years or less; and
- 2 (the reference category) if the business had been operating for more than five years.

$X_{Turnover}$ The **turnover** of the business. The turnover categories of the businesses were coded as follows in the regression model:

- 1 if turnover was R1 – R245,000;
- 2 if turnover was R245,001 – R525,000;
- 3 if turnover was R525,001 – R1 million;
- 4 if turnover was R3,000,001 – R7 million;
- 5 if turnover was R7,000,001 – R14 million; and

- 7 (the reference category) if turnover was R1 million – R3 million.

The omission of a number "6" category was purely a typing error and does not affect the results.

$X_{Concessions}$ The **use of small business tax concessions** by the business. The use of these concessions was coded as follows in the regression model:

- 1 if the business did use these concessions; and
- 2 (the reference category) if they did not.

The "don't know" category was ignored for the purposes of this measurement.

$X_{Education}$ The **level of education** of the person completing the questionnaire. The various levels of education of the respondents were coded as follows in the regression model:

- 1 if they had a high school education;
- 2 if they had technical college education;
- 3 if they were a certified financial accountant, chartered accountant or tax practitioner;
- 4 if they had other experience (practical, studying or lower than high school qualifications); and
- 5 (the reference category) if the person had obtained a university education.

$X_{AccKnowledge}$ The respondent's **accounting knowledge**. The knowledge levels were coded as follows in the regression model:

- 1 if the person had no knowledge at all, or no bookkeeping knowledge, but could understand financial reports;
- 2 if the person had a basic knowledge of bookkeeping;
- 3 if the person was a qualified accountant; and
- 4 (the reference category) if the person had good bookkeeping knowledge or was a qualified bookkeeper.

$X_{AccSystem}$ The **type of accounting system used**. The type of system used was coded as follows in the regression model:

- 1 if no accounting system was used;
- 2 if a paper-based or manual system was used; and
- 3 (the reference category) if a computerised system was used.

e It represents the error term, that is, allowing for the difference between the predicted value obtained by the (best fit) model and the observed dependent value.

A check for multicollinearity was performed and the diagnostic test revealed that the assumption of independence was not violated.

2.4 Regression procedure

The results obtained from the regression models for external costs were obtained by following the following steps:

- a regression analysis was run using the hypotheses (Model 1);
- the determinants that were considered to have a significant impact on these external tax compliance costs were identified from the regression model (Model 1);
- the application of these determinants to each cost (and tax where applicable) was considered and discussed;
- the regression analysis was then re-run (Model 2 – a parsimonious model) using only those significant determinants identified from Model 1; and
- any differences between Model 1 and Model 2 were evaluated.

3. RESULTS OF REGRESSION ANALYSES AND INTERPRETATION THEREOF

The results of the regression analysis set out in Tables 1 and 2 (Model 1 and Model 2), provide insight into the quantitative effect of the independent variables (for instance, size, age and legal form of the business) on the dependent variable (external tax compliance costs). A significant portion of the variation in the dependent variable is explained by the regression Model 1 ($F=8.620$; $df1=28$; $df2=1474$; $p<0.001$). The coefficient of determination (R^2) is 0.141. Thus, 14.1% of the variation in external tax compliance costs is explained by this model. This implies that factors other than those considered in this model have an effect on the external tax compliance costs. Establishing what these factors are does not fall within the scope of this research and thus these factors are not considered further. Although the coefficient of determination is low, it was nevertheless considered valuable to report the findings of the model.

Returning to what the model can explain, it was found that not all the independent variables were significant. For instance, the number of employees ($X_{Employees}$; p=0.103), sector (X_{Sector}; p=0.402) and accounting knowledge ($X_{AccKnoweldge}$; p=0.164) were not significant predictors in this model. The fact that the sector is not a significant factor influencing external tax compliance costs is in line with the hypothesis. The fact that the accounting knowledge is not a significant influence on external tax compliance costs could indicate that it is the owner/employees' *tax knowledge* and not his or her *accounting knowledge* that is of importance when determining the extent of outsourcing of tax compliance functions (if any). The number of employees does not significantly affect outsourcing, indicating that turnover is more relevant than number of employees in determining the effect of the size of a business on its outsourcing costs. These findings are discussed in more detail when the nature of the significant determinants is discussed.

Table 16: External tax compliance costs – test of between-subject effects – Model 1

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	271.236[a]	28	9.687	8.620	<0.001**
Intercept	5459.261	1	5459.261	4858.159	<0.001**
$X_{Employees}$	2.997	1	2.997	2.667	0.103
X_{Sector}	6.967	6	1.161	1.033	0.402
$X_{LegalForm}$	23.701	5	4.740	4.218	0.001**
X_{Age}	19.762	1	19.762	17.586	<0.001**
$X_{Turnover}$	113.954	5	22.791	20.281	<0.001**
$X_{Concessions}$	5.568	1	5.568	4.955	0.026*
$X_{Education}$	11.041	4	2.760	2.456	0.044*
$X_{AccKnowledge}$	5.750	3	1.917	1.706	0.164
$X_{AccSystem}$	9.823	2	4.912	4.371	0.013*
Error	1656.378	1474	1.124		
Total	119887.559	1503			
Corrected Total	1927.615	1502			

a. R Squared=0.141 (Adjusted R Squared=0.124)
* Significant at the 5% level
** Significant at the 1% level

When the variables that emerged as significant determinants of external tax compliance costs were considered in more detail – see Table 2, legal form ($X_{LegalForm}$), age (X_{Age}), turnover ($X_{Turnover}$), use of small business tax concessions ($X_{Concessions}$), the taxpayer's level of education ($X_{Education}$) and the type of accounting system used ($X_{AccSystem}$) – it was found that the size of the business (based on turnover – $X_{Turnover}$) is the most significant determinant (with Beta ranging from -0.670 to +0.414). The fact that the Beta was negative in some cases implies that businesses in those turnover categories pay less than the reference category ($X_{Turnover}$=7; R1 million to R3 million) for external service providers. If the Beta is positive, then these businesses pay more than the reference category. Therefore, this model confirms the hypothesis that as the size of a business increases, so does its external tax compliance costs ($X_{Turnover}$=1 until $X_{Turnover}$=3 are all negative; thus less than $X_{Turnover}$=7 (the reference category), and $X_{Turnover}$=5 and $X_{Turnover}$=6 are more than $X_{Turnover}$=7).

Table 17: External tax compliance costs – parameter estimates – Model 1

Parameter	B	Std. Error	T	Sig.
Intercept	9.181	0.110	83.220	<0.001**
$X_{Employees}$	0.002	0.001	1.633	0.103
$[X_{Sector}=1]$	-0.152	0.111	-1.373	0.170
$[X_{Sector}=2]$	-0.041	0.129	-0.321	0.749
$[X_{Sector}=3]$	-0.213	0.110	-1.931	0.054
$[X_{Sector}=4]$	-0.051	0.142	-0.363	0.717
$[X_{Sector}=5]$	0.019	0.131	0.148	0.882
$[X_{Sector}=6]$	-0.037	0.085	-0.435	0.663
$[X_{Sector}=7]$	0[a]			
$[X_{LegalForm}=1]$	-0.436	0.107	-4.093	<0.001**
$[X_{LegalForm}=2]$	-0.225	0.074	-3.061	0.002**
$[X_{LegalForm}=3]$	-0.039	0.255	-0.155	0.877
$[X_{LegalForm}=4]$	-0.304	0.258	-1.175	0.240
$[X_{LegalForm}=5]$	-0.451	0.169	-2.675	0.008*
$[X_{LegalForm}=6]$	0[a]			
$[X_{Age}=1]$	-0.277	0.066	-4.194	<0.001**
$[X_{Age}=2]$	0[a]			
$[X_{Turnover}=1]$	-0.670	0.113	-5.902	<0.001**
$[X_{Turnover}=2]$	-0.511	0.104	-4.912	<0.001**
$[X_{Turnover}=3]$	-0.070	0.084	-0.826	0.409
$[X_{Turnover}=4]$	0.280	0.079	3.544	<0.001**
$[X_{Turnover}=5]$	0.414	0.095	4.338	<0.001**
$[X_{Turnover}=7]$	0[a]			
$[X_{Concessions}=1]$	-0.163	0.073	-2.226	0.026*
$[X_{Concessions}=2]$	0[a]			
$[X_{Education}=1]$	-0.094	0.071	-1.317	0.188
$[X_{Education}=2]$	0.174	0.079	2.203	0.028*
$[X_{Education}=3]$	0.026	0.265	0.100	0.920
$[X_{Education}=4]$	0.015	0.118	0.123	0.902
$[X_{Education}=5]$	0[a]			
$[X_{AccKnowledge}=1]$	0.045	0.109	0.408	0.683
$[X_{AccKnowledge}=2]$	0.042	0.068	0.618	0.537
$[X_{AccKnowledge}=3]$	-0.174	0.090	-1.936	0.053
$[X_{AccKnowledge}=4]$	0[a]			
$[X_{AccSystem}=1]$	-0.330	0.233	-1.417	0.157
$[X_{AccSystem}=2]$	0.261	0.104	2.504	0.012*
$[X_{AccSystem}=3]$	0[a]			

a. This parameter is set to zero because it is redundant (that is, the reference category).
* Significant at the 5% level
** Significant at the 1% level

In respect of the **legal form** ($X_{LegalForm}$) of the business, the model also confirms the hypothesis that the external tax compliance costs are the lowest for sole proprietors ($X_{LegalForm}=1$) relative to CCs (($X_{LegalForm}=6$); Beta=-0.436, controlling for partnerships ($X_{LegalForm}=2$), trusts ($X_{LegalForm}=4$), (Pty) Ltd

($X_{LegalForm}$=4) and other forms ($X_{LegalForm}$=5)). Compared to CCs, companies also spend more on external service providers than sole proprietors do, but strangely enough, partnerships and trusts pay more than companies for this service – more research is required to determine why this is the case. Overall, the premise is that CCs and companies are more sophisticated than sole proprietors and thus need the extra external assistance, whereas sole proprietors are more inclined to perform these functions themselves (Blaufus *et al*., 2011:11).

The analysis reveals that the **age of the business** (X_{Age}) has a significant influence on external tax compliance costs. The younger businesses (X_{Age}=1) pay less (Beta=-0.277) compared to the businesses that have been in operation for more than five years (X_{Age}=2). This finding confirms the hypothesis. It may be explained by the possibility that small businesses do not require the assistance of external service providers in the first few years because their operations are not complicated. It could also be that perhaps these businesses do not have sufficient cash available to pay for the assistance of such external service providers.

The hypothesis, that using the **small business tax concessions** ($X_{Concessions}$) increase the tax compliance costs, has been rejected by this model (Beta=-0.163). This is a notable finding, contradicting the perceptions of 14.9% of the respondents in the study that the SBTCs have resulted in a direct increase in their external accountant costs (Smulders *et al*., 2012:213). These results confirm one of the goals of the SBTCs - to reduce tax compliance costs and red-tape (Manual, as cited in FIAS, 2007:14). The findings of the regression analysis indicate that using the SBTCs perhaps mitigates the need for the services of an external service provider (this is the objective of the turnover tax, for instance). However, this finding does not take into account the fact that perhaps small businesses cannot afford these services and thus have not incurred this type of cost. More in-depth research on the effect of these concessions on external tax compliance costs is clearly warranted.

It appears that persons who have a qualification from a technical college (**education,** $X_{Education}$=2) tend to pay more for the services of external service providers relative to those who have a university degree ($X_{Education}$=5; Beta=0.174). This is possibly because a technical college qualification is geared more towards fields of (industrial) trade than a university degree. Thus these qualifications would not include training on tax compliance – hence, assistance with these functions is necessary. The other levels of education were not found to have a significant effect on external tax compliance costs. These findings confirm the hypothesis that businesses that have owners/employees who have at least a university degree or higher incur lower costs than those with lower level qualifications.

In line with the hypothesis, the model shows that businesses using a computerised **accounting system** ($X_{AccSystem}$=3) to assist with tax compliance have lower external tax compliance costs than those using a manual system (($X_{AccSystem}$=2); Beta=0.261). A reason for this could be that a computerised system provides quality calculations, reports and information for the business, eliminating the need for an

external service provider to spend time on these functions. This scenario could possibly be regarded as a benefit to the taxpayer, and this possibility is considered to some extent in the next chapter when tax compliance benefits are investigated.

To review the robustness of the specifications used in Model 1 (a full model with all independent variables), Model 1 was re-run using only those variables that were significant. This parsimonious model (Model 2) provided the following results, as set out in Tables 3 and Table 4.

Table 18: External tax compliance costs – test of between-subject effects – Model 2

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	260.660[a]	18	14.481	12.887	<0.001**
Intercept	5825.857	1	5 825.857	5 184.621	<0.001**
$X_{LegalForm}$	22.371	5	4.474	3.982	0.001**
X_{Age}	21.311	1	21.311	18.966	<0.001**
$X_{Turnover}$	129.212	5	25.842	22.998	<0.001**
$X_{Concessions}$	6.606	1	6.606	5.879	0.015*
$X_{Education}$	10.631	4	2.658	2.365	0.051
$X_{AccSystem}$	9.880	2	4.940	4.396	0.012*
Error	1681.026	1496	1.124		
Total	120 788.742	1515			
Corrected Total	1941.686	1514			

a. R Squared=0.134 (Adjusted R Squared=0.124)

* Significant at the 5% level

** Significant at the 1% level

Table 19: External tax compliance costs – parameter estimates – Model 2

Parameter	B	Std. Error	t	Sig.
Intercept	9.137	0.083	110.219	<0.001**
[$X_{LegalForm}$=1]	-0.423	0.105	-4.018	<0.001**
[$X_{LegalForm}$=2]	-0.237	0.073	-3.266	0.001**
[$X_{LegalForm}$=3]	-0.027	0.254	-0.106	0.916
[$X_{LegalForm}$=4]	-0.301	0.258	-1.167	0.243
[$X_{LegalForm}$=5]	-0.378	0.164	-2.303	0.021*
[$X_{LegalForm}$=6]	0[a]			
[X_{Age}=1]	-0.283	0.065	-4.355	<0.001**
[X_{Age}=2]	0[a]			
[$X_{Turnover}$=1]	-0.668	0.111	-6.033	<0.001**
[$X_{Turnover}$=2]	-0.511	0.103	-4.980	<0.001**
[$X_{Turnover}$=3]	-0.073	0.084	-0.873	0.383
[$X_{Turnover}$=4]	0.271	0.078	3.488	0.001**
[$X_{Turnover}$=5]	0.412	0.091	4.515	<0.001**
[$X_{Turnover}$=7]	0[a]			
[$X_{Concessions}$=1]	-0.176	0.073	-2.425	0.015*
[$X_{Concessions}$=2]	0[a]			
[$X_{Education}$=1]	-0.066	0.067	-0.977	0.329
[$X_{Education}$=2]	0.189	0.076	2.475	0.013*
[$X_{Education}$=3]	-0.055	0.261	-0.210	0.834
[$X_{Education}$=4]	0.030	0.115	0.265	0.791
[$X_{Education}$=5]	0[a]			
[$X_{AccSystem}$=1]	-0.300	0.230	-1.306	0.192
[$X_{AccSystem}$=2]	0.265	0.102	2.594	0.010*
[$X_{AccSystem}$=3]	0[a]			

a. This parameter is set to zero because it is redundant (that is, the reference category).

* Significant at the 5% level

** Significant at the 1% level

The signs remain the same for each independent variable and all continue to be statistically significant at the conventional level, although the costs spent on external tax compliance services by a certified financial accountant, chartered accountant or tax practitioner ($X_{Education}$=3) were now found to be marginally less than those spent by a person with a university degree ($X_{Education}$=5), thus confirming the hypothesis. This finding stands to reason, as certified financial accountants, chartered accountants or tax practitioners are highly qualified and can perform the tax compliance functions themselves without having to obtain the services of external service providers. The results from Model 2 therefore suggest that the model specifications are robust.

4. CONCLUSION

Using regression analysis, it was clearly demonstrated that the statistically significant determinants of external tax compliance costs are legal form, age, turnover, use of small business tax concessions, qualification of respondents and the type of accounting system used. In relation to these determinants, the following were established:

- CCs are faced with the highest external tax compliance costs compared to those faced by any other entity type, therefore, confirming the findings of Coolidge *et al*. (2009:8) and DeLuca *et al*. (2005).
- In line with the results reported by Eichfelder and Schorn (2008:11), businesses five years or younger were found to pay less towards external tax compliance costs than more established businesses.
- The findings of Coolidge *et al*. (2009:3) and FIAS (2007) that external tax compliance costs increase as the size of a business (based on turnover) increases were confirmed by the current study.
- Using small business tax concessions reduces external tax compliance costs – this contrasts with the findings of Freedman (2006:59, 2009:156) and Pope (2008:33). It also contradicts the perceptions of 14.9% of the respondents, who stated that using SBTCs would have increased their external service provider costs. The findings confirm, however, one of the goals of the SBTC's as set by government when first introduced (FIAS, 2007:14).
- Businesses with owners/employees who have at least a university degree or higher tend to incur lower external tax compliance costs than those with owners/employees with lower level qualifications. This finding confirms the results obtained by Blaufus *et al*. (2011:11).
- In line with the findings of Coolidge *et al*. (2009:12), it was found that the use of a computerised accounting system results in lower external tax compliance costs.

Confirming the findings of Coolidge *et al*. (2009:3), turnover was found to be the variable that had the most significant impact on external tax compliance costs.

5. FUTURE RESEARCH

The impact of the following factors on external tax compliance costs could be considered in the future as they were found to have an impact on these costs but were not addressed in this article:

- province (Eichfelder & Schorn, 2008);
- gender and marital status (Blaufus *et al*., 2011);
- psychological factors (Eichfelder & Schorn, 2008; Hasseldine & Hansford, 2002);

- administrative strategy (capital-intensive or personnel-intensive) (Eichfelder & Schorn, 2008, 2009);
- use of electronic data interchange (Eichfelder & Schorn, 2009).

LIST OF REFERENCES

Blaufus, K., Eichfelder, S. & Hundsdoerfer, J. 2011. *The hidden burden of the income tax: compliance costs of German individuals – Discussion Paper.* [Online] Available from: http://edocs.fu-berlin.de/docs/servlets/MCRFile NodeServlet/FUDOCS_derivate_000000001634/discpaper06_11.pdf;jsessionid=8522F470F1928F29EFA8D85FE54472D8?hosts= [Downloaded: 2012-05-16].

Charron, L., Chow, G. & Halbesma, J. 2008. *The hidden tax burden – a business perspective on the cost of complying with taxes*. Canadian Federation of Independent Business. Toronto: Royal Canadian Mint.

Colmar Brunton Social Research. 2005. *Measuring the tax compliance costs of small and medium-sized businesses: a benchmark survey*. *Inland Revenue New Zealand.* [Online] Available from: http://www.msi-anz.net/files/docs/smecompliancecosts.pdf [Downloaded: 2011-09-24].

Coolidge, J., Ilic, D. & Kisunko, G. 2009. *Small Businesses in South Africa: who outsources tax compliance work and why?* Policy Research Working Paper 4873, World Bank, Investment Climate Department, Regulatory Simplification Division, [Online] Available from: http://www.wds.world bank.org/servlet/WDSContentServer/WDSP/IB/2009/03/23/000158349_20090323132017/Rendered/PDF/WPS4873.pdf [Downloaded: 2010-10-30].

De Clercq, B., Tustin, D.H. & Venter, J.M.P. 2006. *The organisational impact of taxation on Small, Medium and Micro-establishments in the business services sector in Gauteng, 2006 - Report 3.* 2006. Pretoria: Department of Taxation, UNISA.

DeLuca, D., Greenland, A., Guyton, J., Hennessey, S. & Kindlon, A. 2005. IBM Consulting Services. *Measuring the Tax Compliance Burden of Small Businesses, Recent Research on Tax Administration and Compliance,* Proceedings of the 2005 IRS Research Conference, June 7-8.

Eichfelder, S. & Schorn, M. 2008. *Tax compliance costs and its determinants: Evidence from German businesses.* [Online] Available from: https://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=iipf64&paper_id=358. [Accessed: 2012-06-10].

Eichfelder, S. & Schorn, M. 2009. Tax compliance costs: a business administration perspective. *Diskussionsbeiträge des Fachbereichs Wirtschaftswissenschaft der Freien Universität Berlin*, 2009(3). [Online] Available from: http://hdl.net/10419/28090 [Accessed: 2011-11-11].

Evans, C. 2006. *Counting the costs of taxation: an exploration of recent developments.* Sydney: University of New South Wales.

Evans, C. 2008. Taxation compliance and administrative costs: an overview. In: Lang, M., Obermair, J., Schuch, J., Staringer, C. & Weninger, P. (eds.) *Tax compliance for companies in an enlarged European Community* (pp.447-468). Alphen aan den Rijn: Kluwer Law International.

FIAS. 2007. *South Africa: tax compliance burden for small businesses: a survey of tax practitioners.* [Online] Available from: http://www.ifc.org/ifcext/fias.nsf/AttachmentsByTitle/FIAS_tax_practioners_report_SA/$FILE/FIAS_Tax_Practitioners_Report_-_FINAL_29+Aug.pdf [Downloaded: 2011-11-10].

FIAS. 2008. *Tax compliance costs for small businesses in South Africa: web survey of tax practitioners provincial data analysis.* [Online] Available from: http://www.ifc.org/ifcext/fias.nsf/AttachmentsByTitle/SouthAfricaTaxComplianceCosts2008/$FILE/South+Africa+Tax+Compliance+Costs1.pdf [Downloaded: 2010-02-16].

Field, A. 2009. *Discovering statistics using SPSS.* 3rd ed. Dubai: Oriental Press.

Foreign Investment Advisory Service – see FIAS

Freedman, J. 2006. Why taxing the micro-business is not that simple: a cautionary tale from the 'old world'. *Journal of the Australasian Tax Teachers Association*, 2(1):55-77. [Online] Available from: http://www.asb.unsw.edu.au/schools/taxationandbusinesslaw/atta/attajournal/Documents/5_Freedman_JATTA_vol2_no1.pdf [Downloaded: 2011-11-10].

Freedman, J. 2009. Reforming the business tax system: Does size matter? Fundamental issues in small business taxation. In: Evans, C & Krever, R. (eds.) *Australian Business tax reform in retrospect and prospect.* Sydney: Thomson Reuters.

Guyton, J.L., O'Hare, J.F., Stavrianos, M.P. & Toder, E.J. 2003. Estimating the compliance costs of the US individual income tax. *National Tax Journal* LVI-3(September 2003):673-688. [Online] Available from: http://www.irs.gov/pub/irs-soi/toder.pdf [Downloaded: 2012-05-21].

Hasseldine, J. & Hansford, A. 2002. The compliance burden of VAT: further evidence from the UK. *Australian Tax Forum*, 17(4):369-388.

Inland Revenue (New Zealand). 2010. *SME tax compliance costs 2009: Evaluation Report 1*. [Online] Available from: http://www.ird.govt.nz/ aboutir/reports/research/sme-compliance-eval-report-1/ [Downloaded: 2011-09-02].

InvestorWords.com. 2012. The biggest, best investor glossary on the web – tax burden. [Online] Available from: http://www.investorwords.com/8711/ tax_burden.html#ixzz1vX1zTiba [Accessed: 2012-05-21].

Murphy, J., Hashim, N.H. & O'Connor, P. 2007. Take me back: validating the wayback machine. *Journal of Computer-Mediated Communication,* 13(1): article 4. [Online] Available from: http://jcmc.indiana.edu/vol13/ issue1/murphy.html [Accessed: 2012-06-12].

Murugan, S. (smurugan@sars.gov.za) 2011a. Confirmation of numbers. [E-mail to:] Smulders, S.A. (sharon.smulders@up.ac.za) 1 June 2011.

Murugan, S. (smurugan@sars.gov.za) 2011b. RE:Turnover Taxpayers. E-Mail Addresses. [E-mail to:] Smulders, S.A. (Sharon.smulders@up.ac.za) 22 July 2011.

National Treasury. 2011. *Budget review 2011*. [Online] Available from: http://www.sars.gov.za/home.asp?pid=66388 [Accessed: 2011-08-04].

OECD. 2009. *Taxation for SMEs – key issues and policy considerations*. Paris: OECD Publication Service.

OECD. 2010. *Auditing small and medium sized enterprises 7. Importance of SMEs.* Accra: Centre for Tax Policy and Administration.

Pope, J. 2001. Estimating and alleviating the goods and services tax compliance cost burden upon small businesses. *Revenue Law Journal,* 11(1):1-18. [Online] Available from: http://epublications.bond.edu.au/cgi/ viewcontent.cgi?article=1110&context=rlj [Downloaded: 2011-03-18].

Pope, J. 2008. Favourable small business taxation: to what extent is it justified from a tax policy perspective? *Journal of Applied Law and Policy, 2*(1):21-34. [Online] Available from: http://www.austlii.edu.au/au/journals/JlAppLawP/2008/ 2.html [Accessed: 2012-05-21].

Rametse, N. 2010. *An international perspective on small business implementation costs of a new tax and managerial benefits derived.* In Njiro, E. & Mazwai, T. (eds.) *Transforming black townships into economic powerhouses. Proceedings of the 2010 Soweto International Conference on Entrepreneurship & Development*, South Africa, 27 - 28 January, 2010, pp.1-24.

Reekmans, C. & Simoens, G. 2010. *How high are the tax compliance costs for Belgian SMEs.* Unpublished Masters dissertation. Ghent: Ghent University.

Roth, JA., Scholz, J.T. & Witte, A.D. 1989. *Taxpayer compliance. Volume 1: an agenda for research.* Philadelphia, PN: University of Pennsylvania Press.

Saunders, M., Lewis, P. & Thornhill, A. 2007. *Research methods for business students.* 4th ed. Harlow: Pearson Education.

SBP. 2005. *Counting the cost of red tape for business in South Africa – Main Report, June 2005.* Johannesburg: Strategic Business Partnerships.

SBP. 2011. Headline report of SBP's SME growth index, priming the soil, small business in South Africa, November 2011. Johannesburg: SBP.

Smulders, S. Stiglingh, M. Franzsen R. & Fletcher, L. 2012. Tax compliance costs for the small business sector in South Africa- establishing a baseline. *eJournal of Tax Research,* 10(2): 184-226.

South Africa. 1996. *National Small Enterprise Act, No. 102 of 1996.* [Online] Available from: http://www.westerncape.gov.za/Text/2009/9/national_small enterprise_act_102_of_1991.pdf [Downloaded: 2011-06-29].

Statistics South Africa. 2011. *Survey quarterly labour force survey – quarter 1, 2011*. [Online] Available from: http://www.statssa.gov.za/publications/ P0211/P02111stQuarter2011.pdf [Downloaded: 2011-08-04].

Trading Economics. 2012. *South African unemployment rate.* [Online] Available from: http://www.tradingeconomics.com/south-africa/unemployment-rate [Accessed: 2012-05-15].

Tran-Nam, B., Evans, C., Walpole, M. & Ritchie, K. 2000. Tax compliance costs: research methodology and empirical evidence from Australia. *National Tax Journal*, 53(2):229-252.

Tustin, D.H., Abrie, W., Basson, J.P.C., De Clercq, B., De Hart, K.L., Doussy, E., Graham, C.R., Hammel, E.H., Howell, R., Olivier, P., Posthumus, L.C., Steyn, M., Swanepoel, A., Ungerer, M., Venter, J.M.P. & Wentzel, M.S.I. 2005. *The status of tax management and administrative skills of SME manufacturers: Gauteng 2005 – Report 1* October 2005. Pretoria: Department of Taxation, UNISA.

Upstart Business Strategies. 2004. *Measurement of Value Added Tax Act and Regional Services Councils Act-induced administrative burdens for South African small businesses.* Final Report. Johannesburg: Upstart Business Strategies.

Venter, J.M.P. & De Clercq, B. 2007. A three-sector comparative study of the impact of taxation on small and medium enterprises. *Meditari: Research Journal of the School of Accounting Sciences,* 15(2):131-151. [Online] Available from: SA ePublications: http://0-search.sabinet.co.za.innopac.

up.ac.za/WebZ/images/ejour/images/ejour/meditari/meditari_v15_n2_a8.pdf?sessionid=01-58565-992608138&format=F [Accessed: 2011-07-07].