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Tax compliance costs and small business performance: Evidence from the South African construction industry

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Background: Several studies on tax compliance costs (TCCs) for small businesses found them to be regressive in nature and, imposing a heavier burden on small businesses compared to larger ones.

Objectives: This study predicts the effect of TCCs on performance of small businesses using the survival index value model (SIV®). The intention is to determine if TCCs have a statistically significant effect on the performance of small businesses.

Method: A self-administered questionnaire was emailed to randomly selected contractors registered in classes 3 and 4 of the Construction Industry Development Board to solicit responses. Paired samples *t*-tests, Pearson correlation coefficient tests, regression tests and structural equation modelling were carried out on the 83 responses obtained.

Results: Data analysis, using STATA data analysis and statistical software, depicted TCCs to have a significant effect on the performance of small businesses. Internal TCCs were found to have the heaviest burden on small businesses, and thus had the strongest impact on performance. External TCCs were found to have a negative effect on business performance.

Conclusion: The article recommends proper tax planning for small businesses to enjoy the benefits associated with TCCs and minimise the negative effects. To improve on their performance, small businesses are advised to undertake tax tasks in-house.

Keywords: Tax compliance costs; internal tax compliance costs; external tax compliance costs; non-labour tax compliance costs; small business performance; survival index value model.

Introduction

Small businesses are considered to be key drivers of economic growth within economies (Organisation for Economic Co-operation and Development [OECD], 2016, p. 34), especially the developing ones (Calza & Goedhuys, 2017, p. 2). In South Africa, small businesses create jobs to a semi-skilled and unskilled labour force who would otherwise be unemployed (Makina, Fanta, Mutsonziwa, Khumalo, & Maposa, 2015, p. 1; Rankin, Darroll, & Corrigan, 2013, p. 8). The optimal contributions of small businesses to the economy are inhibited by poor performance (Fatoki, 2014, p. 922) and a high failure rate (Adeniran & Johnston, 2011, p. 5; Maye, 2014, p. 2). One of the factors cited for the poor performance and eventually death of small businesses revolve around taxation costs (Herrington & Kew, 2016, p. 48). The costs associated with complying with taxation consistently appear in reports as a constraint on the performance of small businesses (Battisti, Deakins, & Perry, 2011, p. 18; Herrington & Kew, 2016, p. 49; Schwab, 2016, p. 324; Warfield & Stark-Jones, 2012, p. 14).

Being tax compliant leads to the incurrence of additional non-production time and expenses such as employing personnel to undertake the tax activities, time and effort required for understanding the procedures, completion of tax returns, compilation of receipts and recording information (Vaillancourt & Clemens, 2008, p. 56). These costs are known as tax compliance costs (TCCs) because they are a result of a taxpayer complying with tax laws. Coolidge (2012, p. 251) defined TCCs as those costs incurred by taxpayers in meeting the requirements laid on them by the tax law and the revenue authorities over and above the actual payment of tax – costs that would disappear if the tax was abolished. The time and money spent by managers or owners and employees of small businesses in dealing with tax issues, represents an opportunity cost that distracts them from the more important task of running the business (Steele, 2009, p. 91). Managers and owners of small businesses have to perform multiple tasks and fight to keep the business

afloat (Contos, Guyton, Langetieg, & Nelson, 2009, p. 50), thus overloading them with paper work and further bureaucratic duties that could have a negative impact on performance of the business. The primary objective of this study was to statistically establish the effect tax compliance can have on the performance of small businesses. The ultimate goal is to find out if TCCs warrant prioritisation in business management tasks.

Literature review
Theoretical perspective
This article takes a leaf from the optimal taxation theory that prescribes four principles of a good tax system. A good tax system, according to Adam Smith (1776) as cited in Evans (2006), is one that satisfies the principles of equity, certainty, convenience and efficiency. A good tax system should be fair, levied in accordance with the ability of taxpayers to pay, is clear to taxpayers on their tax compliance obligations, the time and mode of payment for tax should be the most conducive and is not excessive to taxpayers. According to Tran-Nam (2001), the principles of certainty and convenience are wholly concerned with compliance costs, while equity and efficiency necessitate compliance costs to be negligible in order not to violate the principles of a good tax system.

A good tax system is one that has immaterial TCCs associated with it. The TCCs should, therefore, not have a significant effect on the performance of the small business taxpayer. Tax compliance costs that significantly affect the performance of small business taxpayers are associated with a poor tax system.

Prior studies
There has been extensive research on TCCs incurred by small businesses; however, there is a dearth of studies that attempted to statistically link performance of small businesses to TCCs incurred. Despite this challenge, most authors on TCCs and small businesses generally agree that TCCs have a negative effect on business performance. Braunerhjelm, Eklund, and Thulin (2015, p. 11) argue that TCCs inhibit entrepreneurship and the innovation of established businesses, variables that are considered critical to business growth and development. According to Dabla-Norris, Misch, Cleary, and Khwaja (2017, p. 4), high TCCs divert resources from productive activities and increase input costs without creating additional output, thus causing firm productivity to decline.

Empirical evidence indicates that small businesses are disproportionately affected by TCCs (Weichenrieder, 2007, p. 4); thus, when scaled by sales or assets, the TCCs for small businesses are higher than for large businesses (Coolidge, 2012, p. 256). Although medium and large businesses usually spend less than 1% of their turnover in TCCs, small businesses often face costs of 5% or more of turnover. The compliance costs are extremely regressive in the developing world, with small businesses incurring TCCs which are as high as 15% or

more of turnover (Coolidge, 2012, p. 250). This implies that small businesses carry the heaviest burden and, as such, are likely to be heavily impacted on their operations. This is in addition to the host of other challenges they encounter, such as cash flow problems, inaccessible market and inability to attract adequately qualified and skilled employees.

Lack of in-depth technical knowledge and the complexity of the tax law lead to small businesses engaging external tax service providers for assistance (Sapiei, Abdullah, & Ismail, 2013, p. 3), a decision that is likely to increase TCCs. Using the Association of Chartered Certified Accountants qualified members working within small businesses, Hansford and Hasseldine (2012) conducted a survey on the amount of money and time spent on accounting and tax-related activities by small businesses in the United Kingdom. Eighty-five per cent of the firms surveyed made use of external service providers (ESPs), while in Australia, more than 90% (Lignier & Evans, 2012, p. 641) of the respondents had used ESPs. In South Africa, a relatively lower proportion (76%) (Smulders, Stiglingh, Franzsen, & Fletcher, 2012, p. 202) of the respondents had used ESPs. These findings indicate the inabiity of small businesses to perform the tax tasks themselves because of lack of adequate resources. This, in turn, may negatively affect the performance of the businesses.

Despite the claim that tax compliance negatively affects performance, a study by Braunerhjelm et al. (2015) on countries from the Organisation for Economic Co-operation and Development (OECD) did not find any significant impact of TCCs on the entrepreneurial activity of established businesses. The reasoning provided for this finding was the learning experience associated with continuous performing of the tasks, as well as the scale effects. Established businesses learn how to cope with tax administration and can easily cope with the fixed costs associated with tax compliance.

The literature search did not result in any study that attempted to estimate the effects of TCCs on the performance of small businesses in South Africa. Based on this information gap, the following hypothesis was developed: Tax compliance costs do not have any significant effect on the performance of small businesses.

Methodology
Research design and approach
The study was explanatory in nature and conformed to the quantitative research method. An explanatory study enables the examination and explanation of relationships between variables, in particular cause-and-effect relationships (Wisker, 2008). Self-administered questionnaires were emailed to randomly selected respondents. A small business was defined as a construction business with an annual turnover of not more than R14 million, which has full-time equivalent employees between 5 and 51. In creating the sampling frame, contractors from classes 3 and 4 from the online CIDB contractors' register were used. According to Ladzani (2009), classes 1 and 2 are

considered to be very small businesses, while classes 5, 6, 7, 8 and 9 are beyond the definition of small businesses as they can handle tenders meant for larger businesses.

The Raosoft (2013) sample size calculator was used to determine the sample size for the study. At 95% confidence level and 10% margin of error, as well as 50% response distribution, the sample size was 94 participants. Considering the low response rate of email-based surveys, 11% according to Saunders, Lewis, and Thornhill (2007), 470 emails were sent to randomly selected contractors. The reason for sending more than 96 emails was to generate enough responses for meaningful statistical analysis. Email addresses for the selected participants were searched online and any selected participant without an email address was replaced randomly.

Data collection

A self-administered questionnaire was used to gather data. In developing the questionnaire, questions from prior studies on TCCs were adapted. These studies included the 'tax perception and compliance cost surveys – a tool for tax reform' by the World Bank (2011) and study on TCCs by Lignier and Evans (2012). This was done to maintain validity and reliability of the data collection instrument. To further improve on reliability, the original instrument was pretested on contractors that were conveniently selected. Their responses were used to modify the original instrument, which significantly reduced its length, as well as making the language more understandable to the targeted participants. Checking for stability and internal consistency using tests, was not possible as most of the questions in the data collection instrument were quantity rather than scaled questions.

Administration of the questionnaire

The questionnaire was administered by Intergrated Data Expertz, a research consultancy company, that conducts quantitative and qualitative research. Four hundred and seventy potential respondents, randomly selected, were requested, via a leading email, to complete and return a questionnaire that was attached. The data were collected between November 2015 and June 2016. Numerous attempts to encourage participation led to 105 questionnaires being returned. After screening, 83 usable questionnaires remained and were the ones used for analysis.

Data analysis

Descriptive and inferential statistics analysis, with the aid of Microsoft Excel, as well as STATA statistical software, was used for data analysis. Inferential statistics analysis included paired samples *t* tests, correlation tests, hypothesis tests and structural equation modelling (SEM) tests. Paired samples *t* tests were used to check for differences between means of data before and after tax compliance was effected. A *t*-test is used to assess whether means of two classes are statistically different from each other. Correlation tests provide the strength and direction of relationships between variables

(Burns & Burns, 2008). Correlation tests were carried out to predict the relationship between TCCs and firm performance, while hypothesis testing was used to check the statistical significance of the relationships. Structural equation modelling is an analytical tool that estimates coefficients in a set of linear relationships in which the functional relationships are described by parameter estimates that show the magnitude, as well as the direction of effect the independent variables have on the dependent variable. It allows the researcher to explicitly accommodate measurement errors and incorporate abstract and unobservable constructs (Hair, Andersen, Tatham, & Black, 2006).

Measurement of variables

Tax compliance costs
This study categorised TCCs into the following three broad components, a convention followed by many authors:

- external or explicit costs which are represented by monetary outflows paid to ESPs, such as tax agents and tax advisers
- internal or implicit costs which are represented by the time spent by taxpayers, unpaid helpers and internal paid employees
- non-labour costs, also referred to as incidental or miscellaneous costs, which correspond to business overhead costs such as equipment, computers, stationery, travel and rent (Tran-Nam, Evans, Ritchie, & Walpole, 2000, p. 236).

Some taxpayers have to seek the services of professionals to assist with the preparation and determination of tax liabilities. At times, they have to hire teams of accountants, lawyers and tax professionals to track, measure and pay taxes (Laffer, Winegarden, & Childs, 2011, p. 3). To estimate the external costs, respondents were asked to indicate the lump sum amounts they pay to ESPs. A lump sum was requested rather than specific amounts for each tax activity because it is considered more reliable to get an accurate lump sum figure than the amount spent on each one of the services they outsource (Guyton, Kindlon, & Zhou, 2004, p. 7). To disentangle the lump sum to determine the amount that relates to tax, respondents were asked to indicate the services they received from the ESPs, as well as the proportion for each activity. The proportion was then applied to the lump sum to determine the external cost.

Estimating the internal tax compliance costs (ITTCs), we adopted a four-stage procedure followed by Lignier and Evans (2012, p. 637) and Smulders (2013, p. 11). The first step involved determination of the number of hours spent by small businesses (SBs) on tax activities related to value-added tax (VAT), employees' tax (ET) and corporate income tax (CIT) per annum. The second stage was determining the person/s responsible for the tax tasks, while the third step involved determining the appropriate hourly rate for the persons involved in tax tasks. In estimating the hourly rate, data and information from PayScale, a research company

that collects data from employees who want to check if they are fairly compensated with their current employers, were utilised. The rates arrived at for owners, directors, friends or family members; employees and ESPs were R303.62; R169.77 and R86.98, respectively. The fourth and last step in valuing the internal time included multiplying the number of hours by the determined hourly rate.

To estimate the non-labour costs, respondents were asked to provide the tax-related estimates of costs incurred for computer programs, data processing, stationery, printing and copying, postage and faxes, telephone, communication with the South African Revenue Service (SARS) or its agents and travel. Respondents were also asked to provide any other non-labour tax-related cost (NLTCC) not identified on the list provided. In addition, costs on audits and inspection were also solicited.

An assumption that all TCCs are tax deductible at the rate of 28% was used. This assumption was based on the idea that most of the TCCs, such as payment of ESPs, salaries of employees and administration-related expenses, are tax deductible. The assumption for using 28% tax rate was because most respondents were not aware of their taxable income, thus making it difficult to calculate the average tax rate. To determine the cost that was used in analysis (net TCC), the gross TCCs were multiplied by (1-tax rate).

Business performance

Performance of a business is a multifaceted (Kim & Gao, 2013, p. 268) construct that cannot be captured by a single factor. Survival was, in this article, used as a proxy of performance. Survival is a necessary precondition for most other desirable outcomes, including the profitability and growth of a business. A business without prospects of survival will not be able to meet many other objectives such as profitability and growth (Abouzeedan & Busler, 2004, p. 155). The economic theory informs that businesses experiencing losses would not be able to continue operating, while the profitable ones will stay in the market (Safarova, 2010, p. 8).

This article used the survival index value model (SIV®) to estimate business performance. The SIV® model, developed by Abouzeedan and Busler, utilises survivability as an indicator of business performance. The approach used in the SIV® model emphasises the financial situation of the small business and other methods used to quantify the performance of small businesses (Abouzeedan & Busler, 2003, p. 2). The model was initially formulated in 2001 and rearranged in 2016 (A. Abouzeedan, personal communication, October 25, 2016).

The SIV® model incorporates the financial and non-financial variables, which determine the performance of small businesses using business survivability as an indicator. The non-financial variables of the model include business size as represented by the number of employees and age of the business. The financial variables used reflected on profitability, gearing and enhancement and financial pressure.

Enhancement was represented by investment in new technologies (Abouzeedan & Busler, 2005). The rearranged SIV® equation is presented as follows:

$$SI_{ij} = SI_{oi} + SI_{ti} \quad \text{[Eqn 1]}$$

Where:

- SI_{ij} is the survival index (SI) value for the ith business in a jth business sector;
- SI_{oi} is the operating conditions SI for the ith business and
- SI_{ti} is the technology intake SI for the ith business.

Operating conditions SI is determined by the following equation:

$$SI_{oi} = \left(\frac{Y_i}{L_j}\right) + \left(\frac{E_i}{E_x}\right) + \left(\frac{F_i}{C_{3i}}\right) + P_i + \left(\frac{C_{1si}}{C_{1i}}\right) \quad \text{[Eqn 2]}$$

Where:

- Y_i is the number of years since the ith business started operating;
- L_j is the average life span of the jth business sector;
- E_i is the number of employees of the ith business;
- E_x is the maximum number of employees distinguishing different categories of business (50);
- F_i is the annual turnover that the ith business generates;
- C_{3i} is the annual total costs of production for the ith business;
- P_i is the profit margin for the ith business;
- C_{1si} is the self-financed initial capital of investment for the ith business and
- C_{1i} is the initial investment costs for the ith business.

The technology intake SI is estimated by the following equation:

$$SI_{ti} = \left(\frac{C_{2i}}{C_{3i}}\right) \quad \text{[Eqn 3]}$$

Where:

- C_{2i} is the intake and absorption of new technologies indicated by the annual investment of the ith business in such technologies.

All ratios in the model were normalised using the following equation:

$$N(X) = \frac{X_{ij} - \overline{X}}{\overline{X}} \quad \text{[Eqn 4]}$$

Where:

- $N(X)$ is the normalised value;
- X_{ij} is the ratio for the jth company and $\overline{X}$ is the average ratio for all companies in the sample (A. Abouzeedan, personal communication, October 25, 2016).

The SI has a dynamic value, which changes as the life of the business increases. The structure of the SIV® equation is such that a sharp decrease in the value of the SI indicates a business in trouble, while a sharp increase of the SI value indicates

a healthy surviving business (Abouzeedan & Busler, 2005, p. 58). There is no rule of thumb for the SI, but the higher it is, the better the performance of the business in comparison to peers in the same sector. In other words, businesses that have higher SIs are more likely to survive for long, compared to those that have low and negative SIs. Survival indexes before and after TCCs were effected and checked to determine the significance of the differences.

Unlike most other performance models that are primarily based on financial data, SIV® was selected because it considers both financial and non-financial factors. The inclusion of both financial and non-financial factors is considered appropriate, as business performance is a complex process in which both financial and non-financial factors play a role (Abouzeedan & Busler, 2004, p. 162). In addition to this, most small businesses do not keep and prepare financial statements, and when they do, the reliability is questionable (Storey, Keasey, Watson, & Wynarczyk, 1987).

Model specification

In determining the effect of TCCs on business performance, two SIs where created, one before considering TCCs and the other one after effecting TCCs. As a starting point, an SI value for each respondent was calculated. Thereafter, the profit margins were adjusted for TCCs and SI values recalculated. The new SI values were then compared to the initial values to identify the changes that resulted from TCCs. To determine the significance of the change in SI values, the paired t-test was conducted using the following hypotheses:

H_0: $\mu_{SIV1} - \mu_{SIV} = 0$

H_1: $\mu_{SIV1} - \mu_{SIV} = 0$

To establish if the variables being tested had a relationship, the Pearson correlation coefficient tests were done. This is because effects between variables are only possible if there are associations among the variables. Thereafter, the following regression model was run to determine the relationship between the calculated SIVs (dependent variable) and the TCC (independent variable):

$$Y_{SIV} = \alpha + \beta X_{TCC} + e \qquad \text{[Eqn 5]}$$

Where:
- Y_{SIV} is the performance of the SB; βX_{TCC} is the TCCs and e is the error term.

To further the understanding of relationships between TCCs and firm performance, the TCCs were disintegrated into its components and the following regression model developed:

$$Y_{SIV} = a + bX_{NLTCC} + bX_{ITCC} + bX_{ETCC} + e \qquad \text{[Eqn 6]}$$

Where:
- βX_{NLTCC} is the non-labour TCCs; βX_{ITCC} is the internal TCCs and
- βX_{ETCC} is the external TCCs.

Although the study attempted to determine the effect TCCs have on performance of small businesses utilising survivability, it should be noted that there are several other variables that may affect the survivability of small businesses such as business size, growth rate, the business sector, funding (Abouzeedan & Busler, 2004), cash flow, business risk and capital structure (Safarova, 2010), among others. The effect of business size and age were checked in the SEM that was performed.

Empirical results and discussion

The response rate from the survey was 17.66%. This rate is comparable to the 15.75% for World Bank (2007) and higher than 6.7% for Smulders et al. (2012).

Tax compliance costs incurred

The mean TCCs from the study amounted to R66 330.25. This figure was arrived at after summing non-labour, internal tax and external tax compliance costs (ETCCs). The mean cost for NLTCC, ITCC and ETCC was R19 525.24, R40 768.38 and R6 036.63, respectively. This mean cost is slightly above the R62 554, found by Smulders (2013, p. 35), in a survey carried out in 2011. Considering the timing difference of 3 years between the two studies and the exclusion of non-labour costs in the study by Smulders (2013), it can be concluded that small businesses in the construction sector incur lower TCCs compared to the average TCCs incurred by small businesses in South Africa. Besides timing differences and exclusion of non-labour costs by Smulders, other causes of the differences in the TCC are the estimation of annual hours and higher educational levels of employees and owners in the construction sector. Unlike other sectors such as retail, the construction sector requires technically skilled people to operate and succeed.

Relative to turnover, this article found TCCs to constitute, on average, 16.7% of turnover. This average goes down to 12% when a 10% trimming is done (removing the top 10% and bottom 10% ratios). Although lower than the untrimmed ratio, 12% is very high considering that no value is directly added through incurrence of these costs. This resonates with the claims by Coolidge (2012) that TCCs are extremely regressive in the developing world, with small businesses incurring TCCs which are as high as 15% or more of turnover.

Performance of small businesses

The performance of the small businesses is presented in the form of measures of central tendency, as shown in Table 1.

The overall picture portrayed in Table 1 is that the majority of small businesses are in danger of going into oblivion as depicted by low SI values. The table shows that more than three-quarters of the businesses in the survey had poor performance. This was expected as indicated by high levels of liquidations for small businesses in the construction sector.

TABLE 1: Measures of central tendency for variables used in the survival index value model.

Measure	SI	Adjusted SI
Mean	-33.69	-33.97
Mode	-2.00	-1.94
Minimum	-340.07	-342.47
Q1 – Lower quartile	-7.37	-7.78
Median	-4.28	-4.44
Q3 – Upper quartile	-1.93	-1.94
Maximum	3.51	2.60

SI, survival index.

Statistics on liquidations and insolvencies (StatSA, 2013) show a high number of small businesses being liquidated. Between January 2012 and June 2012, 73 business enterprises were liquidated and 77% of those were CCs, which are small businesses (StatSA, 2013). These statistics only report on formally liquidated businesses, not those that are no longer active, though not formally liquidated. Enshassi, Al-Hallaq, and Mohamed (2006) also concur that the industry has a high rate of business failure.

Statistical analysis: Paired *t*-test

A paired samples *t*-test ($N = 83$) was conducted to evaluate whether there was a significant difference between SIVs before TCCs (SIV) and SIVs adjusted for TCCs (adjSIV). The results of the test are shown in Tables 2 and 3.

The results of the paired samples *t*-test show a statistically significant difference between SIV ($M = -33.69$, $SD = 78.12$) and adjSIV ($M = -33.97$, $SD = 78.49$). The mean scores between the two SIVs were significantly different ($t = 2.5574$, $df = 82$, $p < 0.0062$) with adjSIVs having a lower mean. The results reject the null hypothesis that there is no difference in scores of SIV and adjSIV as the scores are not the same. A *p*-value of less than 0.05 confirms that SIVs are statistically different from AdjSIV.

The Pearson correlation coefficient tests were performed to check the strength and direction of the relationships found with the paired *t* tests. Table 4 shows the test results.

Table 4 shows that TCCs are correlated to performance as represented by SIV. The results depict a positive relationship between performance and TCCs, NLTCCs and ITCCs. External tax compliance costs, however, have a negative relationship with performance. Regression tests were run to determine the extent of relationships between variables and the strength of such relationships. The results are shown in Tables 5 and 6.

A linear regression established that TCCs could statistically significantly predict the SIVs of small firms, $F(1, 81) = 7.4$, $p = 0.008$. The relationship between TCC and performance was positive; thus, an increase in TCCs is associated with an increase in SIVs. As much as a significant relationship was found, TCCs account for only 7.24% of the variability in SIVs. A low adjusted r^2 of 7.24% was, however, expected as business performance is multifaceted and many other variables have

TABLE 2: Paired samples statistics.

Pair	Observations	Mean	SD	SE
SIV	83	-33.6851	78.1185	8.5746
AdjSIV	83	-33.9724	78.4916	8.6156

SIV, survival index value; AdjSIV, adjusted survival index value.

TABLE 3: Paired samples test.

Pair	Paired differences					*t*	*df*	Sig.
	Mean	SD	SE	95% CI				
				Lower	Upper			
SIV and AdjSIV	0.2833	1.0236	0.1124	0.0638	0.5108	2.5574	82	0.0062

SIV, survival index value; AdjSIV, adjusted survival index value; Sig., significance.

TABLE 4: Pearson correlation coefficient – Association between tax compliance costs and performance.

Variable	SIV	NLTCC	ITCC	ETCC	TCC
SIV	**1.0000**	-	-	-	-
NLTCC	0.3670*	**1.0000**	-	-	-
ITCC	0.2747*	0.4101*	**1.0000**	-	-
ETCC	-0.3874*	-0.1023	0.2297*	**1.0000**	-
TCC	0.2894*	0.5692*	0.9801*	0.2573*	**1.0000**

SIV, survival index value; NLTCC, non-labour tax-related cost; ITCC, internal tax compliance cost; ETCC, external tax compliance cost; TCC, tax compliance cost.
*, $p < 0.05$.

an effect on performance. Further tests were run to assess the effect of the individual components of TCCs on business performance.

Table 6 shows statistically significant results, at 5% significance level, between internal TCCs and SIV ($p = 0.008$), external TCCs and SIV ($p < 0.001$). Non-labour tax compliance is significant at 10% significance level ($p = 0.054$). Internal tax compliance and non-labour TCCs have positive relationships with SIV, thus an increase in ITCCs and NLTCCs results in an increase in SIV, thus business performance. External TCCs, however, have a negative relationship with SIV, meaning an increase in these costs results in a decline in business performance. These variables (ITCC, NLTCC, ETCC) explain 29.7% ($r^2 = 0.2967$) of the variability in SIV. The coefficient values, however, depict weak relationships between TCCs and business performance.

Structural equation modelling was carried out to test for direct relationships between other pertinent variables to performance such as age, turnover, number of employees, TCCs and firm performance. The purpose was to find out if the variables do have a direct effect on performance without disregarding the TCCs. The SEM results are shown in Table 7.

From the four variables, the SEM test shows TCCs ($p = 0.023$) and turnover ($p > 0.001$) to have statistically significant relationships with SIV. The result on the effect of TCCs on business performance was similar to the result from the regression tests that found a statistically significant positive relationship between the two variables. Statistically insignificant relationships were however found between age of firm, number of employees and the SI values.

To check for heteroscedasticity in the residuals, the Breusch–Pagan test was estimated. The results indicate a χ^2 score

TABLE 5: Effect of tax compliance costs on survival index value.

Source	SS	df	MS	SIV	Coefficient	SE	t	P >|t|	95% confidence interval	
									Lower bound	Upper bound
Model	41 897.5785	1	41 897.5785	Total TCCs	0.0005009	0.0001841	2.72	0.008	0.0001346	-0.0008672
Residual	45 8507.005	81	5660.58031	_cons	-64.4452	14.00122	-4.60	0.000	-92.30323	-36.58717
Total	**500 404.584**	**82**	**6102.49492**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Note: Number of observations = 83; $F(1, 81)$ = 7.40; probability > F = 0.0080; R^2 = 0.0837; adjusted R^2 = 0.0724; root-mean-square error = 75.237.
TCC, tax compliance cost; SS, sum of squares; df, degree of freedom; MS, mean squares; SIV, survival index value.

TABLE 6: Effect of non-labour tax-related costs, internal tax compliance costs and external tax compliance costs on survival index value.

Source	SS	df	MS	SIV	Coefficient	SE	t	P >|t|	95% confidence interval	
									Lower bound	Upper bound
Model	161344.344	3	53781.4	NLTCC	0.0016007	0.00082	1.95	0.054	-0.000031	0.003232
Residual	339060.24	79	4291.9	ITCC	0.0005777	0.00021	2.73	0.008	0.000157	-0.000998
Total	**500404.584**	**82**	**6102.49**	**ETCC**	**-0.0094336**	**0.00212**	**-4.44**	**0.000**	**-0.013661**	**-0.005206**

Note: Number of observations = 83; $F(3, 79)$ = 12.53; probability > F = 0.0000; R^2 = 0.3224; adjusted R^2 = 0.2967; root-mean-square error = 65.513.
SS, sum of squares; df, degree of freedom; MS, mean squares; SIV, survival index value; NLTCC, non-labour tax-related cost; ITCC, internal tax compliance cost; ETCC, external tax compliance cost.

TABLE 7: Structural equation modelling.

SIV	Coefficient	SE	z	P >|z|	95% confidence interval	
					Lower bound	Upper bound
Total TCCs	0.0002907	0.0001274	2.28	0.023	0.000041	-0.000541
Age	-1.743400	1.0401800	-1.68	0.094	-3.78212	-0.29532
Turnover	-0.000012	1.4000060	-8.20	0.000	-0.000014	-8.75001
Number of employees	0.2543529	0.4614313	0.55	0.581	-0.650036	-1.158742
_cons	10.978070	27.60587	0.40	0.691	-43.12845	-65.08458
Var (e.TotalTCC)	1.01e+09	1.64e+08	-	-	7.34e+08	-1.39e+09
Var (e.SIV)	1244.733	201.9223	-	-	905.7179	-1710.642

Note: Iteration 0: log-likelihood = −3411.5768; iteration 1: log-likelihood = −3411.5768; structural equation mode; number of observations = 76; estimation method = mL; log-likelihood = −3411.5768.
SIV, survival index value; TCCs, tax compliance costs; _cons, constant; Var(e.TotalTCC), variance in error of Total Tax Compliance Costs; Var (e.SIV)varience in error of Survival Index Value.

of 4.71 with a probability of 0.385. The null hypothesis of homoscedasticity could not be rejected, implying that the residual had a constant variance. The test results are presented as follows:

- Breusch–Pagan or Cook–Weisberg test for heteroscedasticity
- Ho: constant variance
- Variables: residual variance
- $\chi^2(1)$ = 4.71
- Prob > χ^2 = 0.3851

Ethical consideration

Discussion

The statistical tests show that TCCs do have a statistically significant effect on performance of small businesses as depicted by the results of the paired samples *t*-test. This finding was expected as TCCs reduce profitability and hence the survival of the business. What was unexpected is the positive relationship that was found between TCCs and performance, as an increase in expenses is generally associated with a decrease in financial performance. One of the ways of improving the profitability of a business is reducing the costs; thus, an increase in costs, all things being constant, would reduce profitability which, in turn, reduces the ability of the business to reinvest. It should, however, be noted that the SIV as a measure of performance considers age, size, initial investment and investment in technology in addition to profitability variables.

An increase in TCCs may be a sign that the business is doing well and is an indication of growth in size, which, in itself, is associated with an increase in costs. An increase in size brings along skilled employees, who are, more often than not, expensive. This argument is in line with Smulders (2013), who claims tax compliance to be associated with managerial benefits. According to Evans et al. (2014), such managerial benefits come in the form of better decision-making and management of financial information. These benefits would improve the overall performance of the business, regardless of the increase in TCCs. Having higher TCCs, therefore, does not necessarily mean poor business performance, as it could be a result of higher revenues and better business management.

A negative relationship between ETCCs and performance implies no significant benefit obtained by outsourcing tax tasks. The possible reason for this relationship could be that ESPs do not bring any expertise that improves the management of the business. Depending on ESPs may limit the growth of the business as it does not enhance human development within the business and does not improve on financial information. Small businesses should therefore perform their tax tasks in-house if they are to benefit from tax compliance.

Conclusion

This study had its basis on the principles of a good tax system as postulated by Adam Smith in 1776. Regression tests indicated that the compliance costs incurred by small businesses have a significant effect on the performance; thus, from the perspective of small businesses, the South African tax system violates the principles of a good tax system. The tax system imposes a heavy burden on small business taxpayers, especially in the form of external TCCs and, as such, requires close attention. What makes TCCs an unwanted and unnecessary burden is that small businesses are resource constrained and cannot afford resources to be used on non-value adding activities such as tax compliance. The findings of the study indicate the value of considering TCCs in business planning as they have the ability to affect business performance.

Recommendations

The results of the statistical tests indicate that TCCs have a fundamental role in the survival of a small business. If small businesses understand and manage these costs well, their businesses are likely to perform better. Effective management of the TCCs revolves around the ability of the business to have the 'right' people within the business. The right people are employees or owners, who have the appropriate knowledge to work within a business. Given the importance of tax skills and knowledge in the long-term survival of small businesses (Magoutas, Papadogonas, & Sfakianakis, 2012, p. 88), absence of these skills will have a negative effect on the performance of the businesses.

Contribution of the article

This is one of the first studies to link TCCs of small businesses in the construction sector with business performance in South Africa. Considering the dearth of literature linking TCCs to small business performance, the study adds to the body of knowledge in the field. Evaluating performance using SIV is new in South Africa. Its use opens the door for tests and evaluations of the theory to further assess its robustness and determine its applicability to different scenarios. This would lead to the development of better theories that in turn lead to better understanding of performance measurement and evaluations.

Limitations

A basic problem of measuring compliance costs lies in the reliability of the taxpayers' statements. Most small businesses do not keep records of activities, thus the values obtained are based on memory of the respondent. There is also a challenge in entanglement of joint business costs as most payments made are not solely for tax purposes. Low participation rates from selected participants might be a result of the sensitivity of the subject, lack of time and/or interest. This reduces the generalisation of the study findings.

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Competing interests

Author's contributions

O.M. was responsible for the research process, including literature review, data collection, analysis and interpretation as well writing the manuscript. G.E.C-T. contributed to the development of research instrument, data analysis and writing the manuscript, as well as proofreading it and making necessary changes and adjustments. D.M. contributed to the development of the research questionnaire, methods used as well as suggested changes to the manuscript.

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