

“VAT Incentives and their effects on VAT refunds: the case of Zimbabwe (2009-2012)”

AUTHORS	Ezera Madzivanyika Phineas G. Kadenge
ARTICLE INFO	Ezera Madzivanyika and Phineas G. Kadenge (2015). VAT Incentives and their effects on VAT refunds: the case of Zimbabwe (2009-2012). <i>Public and Municipal Finance</i> , 4(3), 37-44
RELEASED ON	Friday, 25 December 2015
JOURNAL	"Public and Municipal Finance"
FOUNDER	LLC "Consulting Publishing Company "Business Perspectives"



NUMBER OF REFERENCES

0



NUMBER OF FIGURES

0



NUMBER OF TABLES

0

© The author(s) 2024. This publication is an open access article.

Ezera Madzivanyika (Zimbabwe), Phineas G. Kadenge (Zimbabwe)

VAT incentives and their effects on VAT refunds: the case of Zimbabwe (2009-2012)

Abstract

One of the challenges for developing economies is striking a balance between Value Added Tax (VAT) incentives and ballooning VAT refunds. Several jurisdictions cannot isolate the main factors behind their VAT refunds bills. This study empirically evaluates the effects of VAT incentives on VAT refunds in Zimbabwe, using firm level data from the mining sector for the period 2009 to 2012. It concludes that zero rating and VAT fraud are the major factors driving the VAT refund bill in Zimbabwe. The study recommends closing all loopholes from the administration side and reducing the number of zero rated goods.

Key words: VAT incentives, zero-rating, VAT exemptions, VAT deferment, panel data regression.

JEL Classification: H2, H3, H5.

Introduction

Statement of the problem. The Government of Zimbabwe is concerned that the huge tax incentives being offered to companies, especially in the mining industry are not translating into improved revenue collections, let alone better performance of those companies. There are companies which, after having enjoyed vast tax incentives for years ended up closing shop in Zimbabwe, before the country reaped any positive benefits from them. As a result of tax incentives, the mining industry, with its vast resource endowments is not contributing adequately in terms of fiscal revenue and employment.

Research objectives. The study empirically investigates the factors behind the continuous rise in the Value Added Tax (VAT) refunds-to-collection ratio in Zimbabwe. The main objective of the study was to analyze VAT incentives' effects on the level of VAT refunds and overall VAT performance. The specific objectives were:

- ◆ To evaluate the VAT incentives currently applicable in Zimbabwe's mining sector.
- ◆ To determine the effects of zero-rating on the level of VAT refunds and overall VAT performance.
- ◆ To assess the effects of VAT fraud on VAT refunds and to establish loopholes that should be closed in order to achieve administrative efficiency in the face of VAT fraud.

Research questions. The study sought to answer a number of questions that follow:

- ◆ What is the nature of VAT incentives in Zimbabwe's mining sector?

- ◆ What is the effect of VAT zero rating on the level of VAT refunds?
- ◆ What is the effect of VAT fraud on the level of VAT refunds?
- ◆ How can VAT administration be improved in Zimbabwe in the face of ballooning VAT refunds and VAT fraud?

Justification of the study. The study is likely to influence policy decisions on the incessant predicament of a ballooning VAT refunds bill in Zimbabwe. There are gaps that need to be filled in the area of VAT incentives and refunds especially in Zimbabwe. Firstly, there is little recent literature on VAT refunds and VAT incentives. Secondly, most of the previous studies have analyzed tax incentives for a group of countries within a particular trading bloc, for example Southern African Development Community (SADC) rather than concentrating on one specific country. From these studies, it has not been possible to probe the intricacies of the tax system within a particular country. This study is more specific. It concentrates on the essence of VAT incentives to the Zimbabwean economy, with particular reference to the mining sector. The study also builds on the previous studies by employing a different methodology, that is, panel data regression analysis using firm level data. The firm level data was obtained from the Zimbabwe Revenue Authority (ZIMRA), the Chamber of Mines in Zimbabwe (COMZ), the Ministry of Finance, the Zimbabwe National Statistics Agency (ZIMSTAT) and the Ministry of Mines.

Study outline. The paper is structured as follows. Section 1 provides background information to the study. Section 2 covers the theoretical and empirical overview, Section 3 presents the data, model of VAT refunds and estimation results from the model. Final section concludes the study with an overall discussion of findings and policy recommendations.

1. Background to the study

1.1. VAT incentives. There are three types of incentives from a VAT point of view. These VAT incentives include zero rating, VAT deferment and VAT exemptions. Zero rates are administered in terms of Section 10 (1) and 10 (2) of the VAT Act and the 2nd Schedule to the VAT Regulations. A zero-rated supply is a taxable supply and registered operators making zero-rated supplies may claim full input tax credit in respect of goods or services acquired to make zero rated supply. Zero rating applies primarily to exports and to some other types of transactions which should not bear VAT for social and economic reasons.

There is also VAT deferment on importation of capital equipment, if the taxpayer elects so. Deferment of VAT is an officially sanctioned temporary postponement of paying VAT on importation of specified goods of a capital nature. The goods should have been imported for own use by the importer and the VAT amount to be deferred should be at least US\$ 4 800 (ZIMRA, 2014). The deferment is for a period not exceeding 90 days from the date of the deemed importation.

Table 1 reflects amounts that were allowed as VAT deferment from the introduction of dollarization in 2009 up to the first half of 2014. From a sample of 20 companies randomly selected from a list of companies that benefited from the incentive between 2009 and 2011, only seven companies were in a position to pay the deferred tax within the 90 day period. The rest of them had to be followed up after defaulting, indicating that the policy has to be reviewed with a view to finding ways of enforcing compliance on the beneficiaries.

Table 1. Amounts allowed as VAT deferment in US\$000 (2009-2014)

Year	VTP (US\$000)	VAT Deferred (US\$000)
2009	4,362	654
2010	2,586	388
2011	23,229	3,484
2012	16,200	2,421
2013	23,508	3,507
2014 1 st half	6,100	916
Cumulative	75,987	11,370

Source: Data extractions from Zimbabwe revenue authority.

Exempt supplies are those supplies on which no VAT is chargeable. A trader of exempt supplies is not required to register for VAT even though he meets the threshold. VAT paid on the purchase of

inputs used in the production of exempt supplies is not claimable. Where a supplier deals in both exempt and taxable supplies he can register for VAT if taxable supplies meet the threshold or he voluntarily opts for registration. This also raises the issue of apportionment, on claiming input tax credit. The Registered Operator has to prorate his input tax credit claim. Exemptions also apply on imports. The list of VAT exemptions has been growing from year to year in Zimbabwe. However, this is against the principles of best practice VAT which should be broad based with a single uniform rate and very few exemptions, perhaps for foodstuffs (Cnossen, 2012).

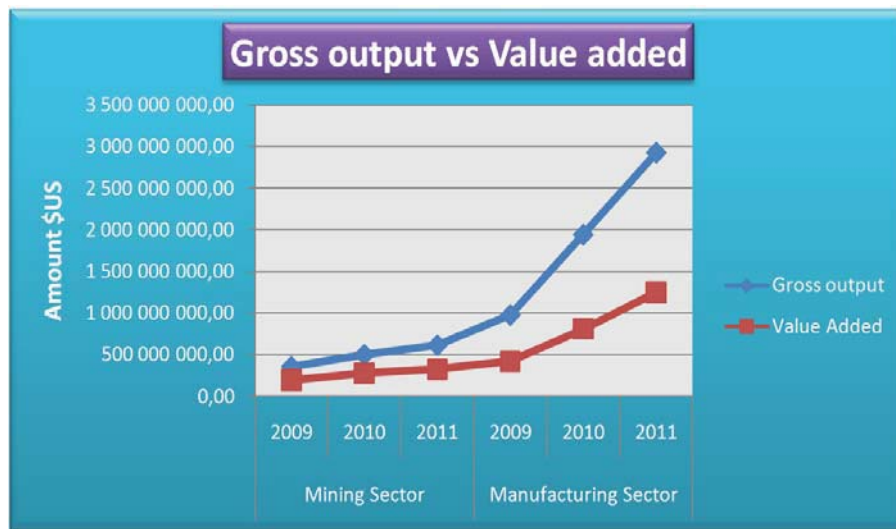
1.2. An analysis of the causes of huge VAT refunds in ZIMRA. There are several factors that influence VAT refunds (Harrison & Krellove, 2005). Firstly, a fast growing economy with significant value addition is likely to be refunding more VAT than an economy experiencing stagnant or negative growth. Zimbabwe began to experience positive growth from 2009 when it adopted the multi-currency regime, following more than a decade of negative growth. Table 2 shows positive trends for all the variables, namely GDP, exports, imports and VAT paid on importation. This could have led to a positive trend on the growth of VAT refunds. Results of the econometric analysis in Section IV confirm this assertion.

Table 2. GDP, VAT refunds and trade statistics in US\$ millions

Year	2009	2010	2011	2012
GDP	6,133	7,433	8,866	10,004
Exports	2,189	3,204	3,517	3,839
Imports	6,207	5,865	8,596	7,484
VAT Collections	370	831	1,087	1,279
VAT Refunds	47	134	173	196
Refunds/Collections	13 percent	16 percent	16 percent	15 percent

Source: ZIMSTAT 2012 4th quarterly digest and ZIMRA database.

The greater the value addition, the higher the likelihood of VAT and VAT refunds within that jurisdiction. Zimbabwe has also fared very well in this regard since the period 2009 to 2012 saw the economy improving drastically in terms of value addition. This is depicted in Figure 1 where two sectors with the bulk of zero rated items are considered. The Sectors are Mining and Manufacturing. Due to the fact that value addition increased over the period, one would expect growth in VAT refunds over the same period.

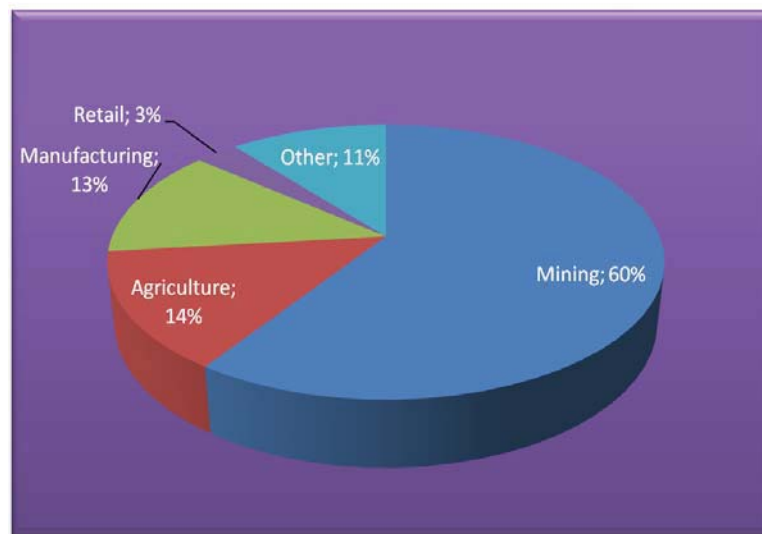


Source: Graph constructed from data obtained from ZIMSTAT quarterly digest of Statistics.

Fig. 1. Gross output and value added (2009-2011)

Secondly, the design of the VAT system, especially the extent of zero rated products has a significant bearing on the level of VAT refunds within a jurisdiction. Since mining, agriculture and manufacturing sectors are the top zero rated sectors in Zimbabwe, one would consequently expect big refunds

emanating from these sectors. Figure 2 supports this assertion. From the pie chart, although there are more than ten sectors in Zimbabwe, 87% of VAT refunds for 2012 came only from three sectors. These sectors are characterized by a vast number of products that are zero rated.



Source: Authors' calculation using data derived from ZIMRA Large Clients Section.

Fig. 2. Contribution of mining, agriculture & manufacturing to VAT refunds

Thirdly, if the levels of non-compliance with VAT regulations and fraudulent activities are high and not detected by the tax authorities, then consequently VAT refunds are likely to be high. In the Zimbabwe Revenue Authority, a huge chunk of VAT refunds claims are usually rejected due to a number of reasons including improper invoices, duplicate claims and missing documentation. Some of the reasons are related to the issue of fraud while other reasons pertain to other issues (see Table 3). The information is from a sample randomly selected from the VAT refunds section,

through the assistance of auditors in the Section. From the Table, more than 72 % (64 out of 89) of the refund claims were disallowed as a result of improper tax invoices.

Table 3. Reasons for disallowing VAT claims (2012)

Reasons for disallowing	Number of cases	VAT claimed (\$000)	VAT disallowed (\$000)
Altered invoices	1	6,816	1,157
Cash sales	2	11,566	938
Claimed after 12 months	1	5,585	5,036

Table 3 (cont.). Reasons for disallowing VAT claims (2012)

Reasons for disallowing	Number of cases	VAT claimed (\$000)	VAT disallowed (\$000)
Claimed customs duty	2	32,506	1,990
Claimed using cash sales	1	565	147
Duplicate claim	1	383	115
Improper tax invoices	64	238,741	100,495
Missing invoice	6	48,566	7,021
No amount on invoice	1	4,181	20
No buyer's name on invoice	10	41,319	2,512
Grant total	89	390,230	119,431

Source: Extractions from ZIMRA VAT refunds section.

2. Theoretical and empirical overview

2.1. Theoretical overview. According to Bohmer et al. (2007) tax incentives are those special exclusions, exemptions, deductions or credits that provide special credits and preferential tax treatment or deferral of tax liability. Klemm (2009) defines them as measures providing for more favorable tax treatment of certain activities or sectors, compared to what is granted to the general industry. Tax rate reductions, VAT zero rating and VAT exemptions are also classified as tax incentives (Calitz et al., 2013; Klemm, 2009).

Two fundamental premises underlie the justification for offering tax incentives in developing countries: first, that additional investment leads to faster economic growth and secondly that tax incentives stimulate additional investment (Bolnick, 2004). According to Bolnick (2004), the advantages and disadvantages of the various tax incentives can be analyzed in terms of four criteria: effectiveness in stimulating investment, impact on revenue, economic efficiency and impact on tax administration.

Tax incentives are used to attract either local or foreign direct investment to certain economic activities. This is usually the case when the capital stock is considered too low and the tax system has been identified as the main obstacle (Klemm, 2009).

Easson & Zolt (2002) and Bolnick (2004) present similar arguments against tax incentives. These include the fact that they can create economic distortions due to preferential treatment of investment. In addition, they also increase the cost of administration, as more resources are required in preventing fraudulent use of incentives. They also created social costs of rent-seeking behavior. Calitz et al. (2013) argue that export-oriented incentives such as VAT exemptions and zero rating are very prone to abuse, as qualified purchases can easily be diverted to buyers not intended to receive the incentives.

Cost-benefit studies of tax incentives are difficult to make and may be misleading, if they systematically exclude general equilibrium effects (Klemm, 2009,

p. 13). Tax incentives are often designed to generate tax benefits on the basis of performance criteria, such as job creation. However, it is difficult to evaluate the efficiency of such types of incentives as one is required to evaluate allocative efficiency as well as equity (Calitz et al., 2013).

On VAT refunds, economic theory and practice indicate that to be efficient, the VAT must be consumption-typed, broad based and applied through to the retail stages (Le, 2003). The OECD (2014) asserts that VAT refunds emanate from the design feature of the VAT. The invoice credit form of VAT has a key feature that some businesses will pay more tax on their inputs than is due on their output, and so ought in principle to receive VAT refunds (Ebrill et al., 2001).

VAT refunds can also be traced to two of the three main principles of taxation, namely neutrality and efficiency. Neutrality entails that the tax system raises revenue while minimizing discrimination in favor of any particular economic choice. Refunds can therefore emanate from the fact that some goods are zero-rated and this zero-rating of VAT is in tandem with the principle of neutrality. Unlike zero-rating, VAT exemptions create an exception to the neutrality of the VAT (OECD, 2014). When a supply is VAT exempt, it means that no output tax is charged on the supply and that the supplier is not entitled to credit the related input tax. On the other hand, the principle of efficiency entails that consumers, instead of businesses should bear the economic incidence (burden) of a VAT. Mechanisms should be in place for relieving businesses from the burden of VAT they pay when they acquire goods and services. This mechanism involves the refunding of excess input tax (VAT refunds).

The issue of VAT refunds can also arise if the VAT legislation makes provision for rebating taxes to exporters (Thuronyi, 1996; Black et al., 2011). Under the destination principle, no VAT is levied on exports and the associated input tax is refunded to the exporting business (zero-rated), while imports are taxed on the same basis and rates as domestic supplies. According to Section 10 (g) (iii) of the Zimbabwean VAT Act, exports are zero rated.

On the ideal level of VAT refunds, Krever (2008) asserts that VAT refunds can be substantial, averaging 30% or more of gross VAT collections. In some economies, it is no common for VAT refund levels to be as high as 50% of gross VAT collections. VAT refund levels are generally low in Africa (Krever, 2008). They are higher in countries with more open and faster growing economies, as well as in countries with modern systems of tax administration. Tax administrators should have a sense of the level of refunds they might reasonably expect to pay as a warning signal of attempted fraud (Ebrill et al., 2001).

Bird & Gendron (2011) assert that it is desirable to restrict zero rating solely to exports to limit the potential range of legitimate claims. In addition, export sales against which input claims are made should be adequately supported by verified export declaration forms. Jurisdictions should aim to achieve zero zero-rating of domestic products.

2.2. Empirical overview. In countries like Ethiopia, capital goods are treated in the same way as other merchandise items (Yesegat, 2008). Such a custom affects mainly taxpayers that are required to carry forward credit claims including those on capital goods to future periods. This procedure impacts negatively on investment.

A study of VAT in Francophone Africa by Waezeggers, cited in Krever (2008), shows that for Algeria, excess input tax credits must be carried forward to the following tax periods until entirely written off. VAT refunds are only granted to exporters and to suppliers whose output is taxed at a lower rate than their inputs. A study in Tunisia indicated that up to 50% of excess input tax credits may be refunded after they have been carried forward for six consecutive months. In Madagascar, excess input tax credits must also be carried forward to the next tax period. Burkina Faso refunds excess input tax credit only to exporters and to businesses that cease operations (Krever, 2008). Mali and Niger limit refunds to exporters to an amount equal to 60% of the VAT that would have been payable on the exported goods if they would have been supplied domestically.

In a study carried out by Legeida (2002) in Ukraine, it was concluded that the VAT refund problem lies not only within VAT legislation and administration, but rather touches on a broad range of fiscal and economic issues. Fraud was pointed out as one of the elements and government was said to have lost vast amounts of resources through non-cash sales and settlements. In addition, numerous preferences (tax incentives) such as zero rates were said to have eroded the tax base and further resulted in fraud and corruption.

In Ukraine, Legeida & Sologoub (2003) concur with the notion that VAT problems arise both within VAT legislation and VAT administration and also on a broad range of fiscal and economic issues. The study highlights that numerous preferences (incentives) such as zero rates and exemptions have eroded the VAT base and resulted in fraud and corruption.

Harrison, in Krever (2008) asserts that a large amount of revenue is lost as a result of VAT refund abuse. Even in countries with well-established and experienced tax administrations such as Germany, so much fraud has been uncovered in the form of

illegitimate invoices that it has been proposed that refunds should not be paid unless satisfactory proof is provided that the input taxes claimed have been received by government (Sinn et al., 2004).

3. Research methodology

3.1. Choice of methodology. The methodology for analyzing VAT refunds follows the leads of Harrison & Krelove (2005). The study adds to previous studies by introducing panel data analysis at firm level in the mining sector. Panel data involves two dimensions, a cross-sectional dimension N , and a time series dimension T . It gave the researchers a large number of data points ($N \times T$), increasing the degrees of freedom and reducing the collinearity among explanatory variables, hence improving the efficiency of econometric estimates. It allowed control of heterogeneity of the cross-sectional units. Panel data have increased precision of regression estimates (Wooldridge, 2002; Baum, 2006). The decision to employ panel data analysis in this study was also based on the length of the period under review: 2009 to 2012. Panel data analysis is suitable for short time periods.

3.2. Data collection. Most of the data were extracted from the actual company returns and assessments. The company returns are submitted either manually or electronically but captured in the Systems Application Product (SAP), by ZIMRA data capturers. The SAP system provided statistics on Gross Profit, turnover, VAT revenue and VAT refunds. Data on exports, and import related statistics were obtained from Automated System of Customs Data (Asycuda, World). The researchers also got some of the data from ZIMSTAT, ZIMRA website and some Government Ministries.

3.3. Model specification. Our empirical analysis adopted the following model that was borrowed from Harrison & Krelove (2005) but with some modifications. The model is specified below:

Model 1. Effects of zero rating VAT on VAT refunds.

$$VR_{it} = \alpha_0 + \beta_1 EX_{it} + \beta_2 Y_{it} + \beta_3 VI_{it} + \beta_4 VL_{it} + \beta_5 D1_{it} + \beta_6 D2_{it} + \beta_7 D3_{it} + U_i + v_{it},$$

where: VR_{it} represents VAT refunds; α_0 is the intercept; EX_{it} represents exports; Y_{it} represents the firm's income; VI_{it} represents VAT on imports; VL_{it} represents the VAT on Local Sales; $D1_{it}$ is the dummy that captures the sector of the firm; $D2_{it}$ is the dummy variable that captures compliance history of the firm; $D3_{it}$ captures the effect of fraud on VAT refunds; $\beta_1, \beta_2, \beta_3 \dots \beta_7$ are parameters to be estimated.

Firms in the Large Clients Office were those that

obtained more than 80% of the total VAT refunds processed in Zimbabwe, while the choice of the sectors was hinged on the fact that the first three had quite a number of zero rated products, that we believed had a huge bearing on the level of VAT refunds.

3.4. Choice of variables and expected signs. Exports of all goods (EX) and taxable services are zero rated in Zimbabwe, as in many countries where VAT is administered. Exporters are thus allowed by law to claim refunds of input tax incurred in the course of making such supplies (Section 10 (1) (a) VAT Act).

Secondly, a firm's income or output (Y) measures how well the firm is performing in a particular industry. The higher the level of output by firms combined, the higher the nation's gross domestic product. In their analysis, Harrison and Krelove (2005) used gross domestic product as one of the independent variables, but since our analysis was using firm level data, we used the firms' output instead of gross domestic product.

Thirdly, VAT paid on importation (VI) of capital equipment and other zero rated inputs is supposed to be claimed as input tax when the firm finally submits its VAT returns. Since Zimbabwe came from a serious economic depression that ended in 2009, the country was still relying on imports to recapitalize. The higher the imports where VAT was paid, the higher the claim of input tax and consequently, the higher the VAT refunds. On the other hand, VAT on local sales (VL) is what the firm eventually pays, after making its claims of input tax. Generally, the higher the input tax claimed, the lower the VAT paid on local sales. Normally VAT on local sales is boosted by an increase in industry capacity utilization. We expected a negative and significant relationship between VAT refunds and VAT on Local Sales.

Dummy variables were also used in the analysis. Firstly, the sector or industry to which the firm belongs (D1) determines the level of VAT refunds claimed by that firm. For instance, if a firm belongs to the agriculture, mining and manufacturing sectors, that firm's VAT refunds are expected to be on the increase. Many goods and inputs in those sectors are zero rated. Dummy variables were used to capture this attribute. The dummy took the value of 1 for firms in the zero rated sectors and 0 otherwise. We expected a positive and significant relationship between VAT refunds and the dummy variable (D1).

Secondly, the problem of VAT fraud (D2) has been a major issue for developing countries like Zimbabwe. As the researchers were sifting through the firms' individual VAT returns and the assessments from auditors in the VAT Refunds Section, it was noted that a number of claims for refunds had been rejected, mostly for fraud-related reasons. The authors used dummy variables to capture this effect of

VAT fraud. Where a firm had refund claims rejected as a result of VAT fraud related issues, 1 was used and 0 otherwise.

A second test to capture the VAT fraud variable was to check the compliance history of a firm (D3) and assume that if the compliance history was bad, the firm was also likely to make a fraudulent claim. A third dummy variable was used to capture compliance, with 1 indicating firms with good compliance histories and 0 otherwise. We expected this dummy variable to be significant and positively related to VAT refunds.

In summary, the expected signs for each variable are as given in Table 4.

Table 4. Variable, expected sign and source of expected sign

Variable	Expected sign	Source of expected sign
EX	Positive	Harrison and Krelove, 2005
Y	Positive	Harrison and Krelove, 2005
VI	Positive	Economic theory
VL	Negative	Harrison and Krelove, 2005
D1	Positive	Economic theory
D2	Positive	Economic theory
D3	Positive	Economic Theory

3.5. Model estimation and results. Table 5 presents a summary of the model estimates and results. The data were converted into logarithms and the results would thus be interpreted as elasticities. L stands for the logarithms of the respective variables.

Table 5. OLS, FE & RE model results with dependent variable LVR

Variables	OLS	Fixed effects	Random effects
LY	0.7686*** (0.1344)	1.05*** (0.2009)	0.7494*** (0.1322)
LVI	0.2618* (0.1409)	0.6822** (0.2698)	0.2921** (0.1339)
LVL	-0.2931*** (0.0820)	-0.0973 (0.1073)	-0.2540*** (0.0747)
LEX	-0.1013* (0.0538)	-0.0275 (0.0716)	-0.1056** (0.0503)
D1	1.0490** (0.4838)	Dropped in FEM	0.8849* (0.5345)
D2	-0.1405 (0.4599)	Dropped in FEM	-0.5442* (option 2) (0.3223)
D3	0.7453* (0.4285)	Dropped under FEM	0.5620 (0.4032)
R-squared	0.64	0.51	0.63
F-statistic	11.63***	10.03***	
Wald Chi 2	-	-	71.40***
No. of Obs	54	54	54(121 option 2)

Key: *** significant at 1% ** significant at 5% * significant at 10%, standard errors in parentheses.

3.6. Discussion of the regression results. Except for the third dummy variable, all other variables were significant using the random effects model

from the three models tabulated above. The R-squared of the adopted model was reasonably high at 0.63 under random effects. This meant that about 63 percent of the variation in the dependent variable was explained by the variations in the explanatory variables.

The coefficient of Firm's income (Y) had the expected positive sign and was significant at all levels of inferences. This variable had one of the highest effects on the level of VAT refunds in Zimbabwe (0.7494). It showed that a 1% point increase in the firm's income resulted in about 0.75% point increase in VAT refunds. This finding is consistent with the empirical findings of Harrison & Krelove (2005) in their cross country VAT refunds study.

The exports (EX) variable contained a negative unexpected sign but remained significant at the 5% level of significance. The unexpected sign might be an indication of the fact that Zimbabwe still has an immature tax administration. VAT refunds normally increase with openness of the economy and fall with less mature tax administrations (Harrison & Krelove, 2005).

VAT on Local Sales (VL) had an expected negative sign on the coefficient that is significant at 1% level of significance. Harrison and Krelove used the difference between highest and lowest non-zero VAT rate to capture the refunds generated on domestic sales. In this study, due to availability of data, we were able to capture the relationship between VAT on Domestic Sales and VAT refunds. As anticipated, there was a negative and significant relationship between VAT refunds and VAT on Local Sales.

The coefficient of VAT on Imports (VI) was consistent with economic theory. As mentioned by Harrison & Krelove (2005), refunds rise with the openness of the economy. In our model VAT on Imports had a positive and significant sign at 5% level of significance. A major reason for the increase in the level of imports in Zimbabwe, for the period under study, was that the nation had just emerged from over a decade of economic meltdown. Most of the companies were therefore still importing capital equipment and local raw materials that were zero rated in order to boost local capacity utilization. Local capacity utilization stood at 44.2% in 2013 (Confederation of Zimbabwe Industries, 2012).

As expected the sector to which a firm belonged (D1) had a significant impact on the level of refunds paid to that firm. Even if a firm had vast amounts of income and was able to export most of its products, this did not automatically put that firm in a major VAT refund position. The finding derived from this variable was that the sector to which the firm be-

longs also mattered on the level of VAT refunds receivable by that firm.

Dummy 2 (D2) was statistically significant at 10% level and was negatively related to VAT refunds. Thus firms whose fraudulent activities were undetected were most likely to get more VAT refunds through fraud or corruption. However, conversely where fraud was detected earlier by VAT auditors, refund levels were lower since the invoices were rejected. VAT refund fraud was arguably a huge blow to ZIMRA, with firms taking advantage of the loopholes in VAT administration before the country embarked on fiscalization.

Dummy 3 (D3) was not statistically significant although it had the expected negative sign implying that the more compliant the firm is the lesser the refund emanating from fraudulent claims

Findings and recommendations

Findings. The Zimbabwean economy has been experiencing positive real growth since 2009. In addition, both imports and exports have been on the increase since then. This has resultantly increased the level of VAT refunds, either way. From the empirical investigation, the coefficient of firm's income (Y) which was also a proxy for economic growth, had a positive sign and was significant at all levels of inference. The finding is consistent with the empirical findings of Harrison & Krelove (2005) in their cross country VAT refunds study.

Most of the VAT refunds in Zimbabwe emanate from sectors that had huge lists of zero rated goods. Agriculture, manufacturing and mining had vast incentives in the form of zero rated goods. From a sample taken from the Large Clients Office, more than 60% of the refunds emanated from the mining sector due to zero-rating of that sector and the fact that almost all mineral exports are zero-rated. In-depth interviews carried out with VAT Auditors in ZIMRA revealed that ZIMRA had a tight audit system in place when dealing with VAT refunds. However, despite this system, some companies would still submit fraudulent refund claims. Traces of fraudulent refund claims were found from previous returns which the researchers sifted through with the assistance of VAT auditors. From the empirical analysis, VAT fraud was statistically significant and positively related to VAT refunds.

Policy recommendations. Rampant incentives, especially zero rating had a strong bearing on the level of VAT refunds within a jurisdiction. It is therefore suggested that Zimbabwe could exempt products of the mining sector, instead of zero rating them. Zimbabwe could exempt capital equipment for mining and spare parts from VAT, instead of

zero rating them. Collecting VAT which is certain to be refunded is only increasing administrative burdens for the Zimbabwe Revenue Authority. To compensate firms in these sectors, Government could then give them subsidies, in lieu of VAT refunds.

Zimbabwe could also adopt the Kenyan model, where the VAT laws specify that refund claims exceeding a specified amount must be certified by a Certified Public Accountant (Legeida & Sologoub, 2003). In order to be effective, the scheme requires a high integrity accounting profession, a strong tax administration and sound judicial systems to enforce sanctions. This move will curb VAT refund abuse.

Zimbabwe should invest in efficient VAT administration practices, if the problem of VAT fraud is to be curbed. While the nation had made a great stride in introducing fiscalization, it is important that the project be enforced on all vendors instead of the current situation where only large vendors with a gross annual turnover of more than US\$60,000.00 are by law compelled to have fiscalized cash registers. Besides the challenge of VAT refunds, the policy of VAT deferment has not been a sound and beneficial policy since more than 50% of the companies that enjoyed the privilege failed to remit the VAT due within the 90 day period. There is need to review this policy.

References

1. Baum, C.F. (2006). *An introduction to modern econometrics using Stata*. s.l.: College Station, Texas.
2. Bird, R. & Gendron, P. (2011). *The VAT in developing and transitional countries*, New York: Cambridge University Press.
3. Black, P., Calitz, E. & Steenkamp, T. (2011). *Public Economics*. 5th ed. Pretoria: Oxford University Press.
4. Bohmer, A., Clark, S. & Cebreiro, A. (2007). Tax incentives – a global perspective: experiences in MENA and non-MENA countries. Available at: <http://www.oecd.org/mena/investment> [Accessed 26 March 2015].
5. Bolnick, B. (2004). *Effectiveness and economic impact of tax incentives in the SADC region*, Arlington Virginia, U.S.A: Nathan Associates Inc.
6. Calitz, E., Wallace, S. & Burrows, L. (2013). *The impact of tax incentives to stimulate investment in South Africa*. International Centre for Public Policy, 13(6).
7. Chamber of Mines of Zimbabwe (2013). Chamber of Mines of Zimbabwe. [Online] Available at: <http://www.chamberofminesofzimbabwe.com> [Accessed 2015].
8. Cossen, S. (2012). *Introducing a modern GST in India: need for further debate*. Tax Notes International, 25 June. 66 (13).
9. Confederation of Zimbabwe Industries (2012). Confederation of Zimbabwe Industries. [Online] Available at: <http://www.czi.co.zw> [Accessed January 2015].
10. Easson, A. & Zolt, E. (2002). *Tax incentives*. World Bank Institute.
11. Ebrill, L., Bodin, J., Keen, M. & Summers, V. (2001). *The modern VAT*. Washington D.C: International Monetary Fund.
12. Harrison, G. & Krellove, R. (2005). VAT refunds: a review of country experience. [Online] Available at: <http://www.imf.org/external/pubs/ft/wp/2005/wp05218.pdf> [Accessed 16 March 2015].
13. Klemm, I. (2009). *Causes, benefits and risks of business tax incentives*. International Monetary Fund, Fiscal Affairs Department, 9 (21).
14. Krever, R. (2008). *VATs in Africa*. Capetown: Pretoria University Law Press.
15. Le, T.M. (2003). Value added taxation: mechanism, design and policy issues. [Online] Available at: <http://www1.worldbank.org> [Accessed 15 June 2015].
16. Legeida, N. (2002). VAT refund crisis in Ukraine: causes, risks and solutions. [Online] Available at: <http://www.ier.com.ua/Publications> [Accessed 15 April 2015].
17. Legeida, N. & Sologoub, D. (2003). Modeling VAT revenues in transitional economies: case of Ukraine. [Online] Available at: <http://www.researchgate.net> [Accessed 20 March 2015].
18. Ministry of Finance (2009). Ministry of Finance and Economic Development. [Online] Available at: <http://www.zimtreasury.gov.zw/> [Accessed January 2015].
19. Ministry of Mines and Mining Development (n.d.). Ministry of Mines and Mining Development. [Online] Available at: <http://www.mines.gov.zw/>
20. OECD, (2014). Addressing the Tax Challenges of the Digital Economy. [Online] [Accessed 16 February 2015].
21. Sinn, H., Gebauer, W. & Parsche, R. (2004). The IFO Institute's model for reducing VAT fraud: payment first, refund later, 5 (2), pp. 30-34.
22. Thuronyi, V. (1996). *Tax Law Design and Drafting*. Washington D.C.: International Monetary Fund.
23. Value Added Tax Act CH 23:12 (2003). *Value Added Tax Act*. Harare: Government Printers.
24. Wooldridge, J. (2002). *Econometric analysis of cross-section and panel data*. Cambridge: MIT Press.
25. Yesegat, W. (2008). Value added tax administration in Ethiopia: a reflection of problems, *E-Journal of Tax Research*, 6 (2), pp. 145-168.
26. Zimbabwe National Statistics Agency (2012). *Quarterly Digest of Statistics*, Harare: Zimbabwe National Statistics Agency.