Research Journal of Economic and Management Studies (RJEMS)
Vol.1, No.2. (2021). ISSN: 2789-6803.

Indirect Taxes and Economic Growth in Zimbabwe. An ARDL Analysis

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Abstract
The study examined the impact of indirect taxes on economic growth in Zimbabwe for the period 1990-2018. The emergence and growth of the informal sector in Zimbabwe has seen tax authorities responding by realigning tax systems to the informal economy. This resulted in indirect taxes increasing relative to traditional direct taxes. Nonetheless, no empirical attempt has been made to separate the effects of these tax heads. Accordingly, we disaggregate and compare the effects of indirect and direct taxes on economic growth in Zimbabwe. Applying the Auto-Regressive Distributed Lag (ARDL) estimation technique on a time series model derived from Engen and Skinner (1996) shows that direct and indirect taxes have significantly negative economic growth effects. Also, we find no significant impact difference between the two tax heads. Furthermore, ARDL Bound Tests confirmed the existence of cointegration between both tax heads and economic growth. The findings suggest that the tax being levied by the government is mainly distortionary. They discourage capital and labour productivity. Accordingly, we recommend that authorities lower the tax rates. This should be complemented by broadening the tax base and policy measures to promote tax compliance and efficiency.

Keywords: *Auto-regressive distributed lag model, Cointegration, Economic growth, Indirect taxes, Cointegration.*

1. Introduction

There has been an endless debate on the impact of taxation on economic growth, with controversy shrouding on how taxes impact the various growth variables. Accordingly, policy frameworks at the global level give reference to tax systems and their importance. Improving taxable capacity and other national revenue streams is fundamental for the attainment of Sustainable Development Goal (SDG) 17; to strengthen domestic resource mobilization through international support to developing countries and; to improve domestic capacity for tax and other revenue collection (United Nations Development Program [UNDP], 2019). In addition, tax capacity is meticulously related to the ability of governments to offer improved public services, to eradicate poverty (SDG 1), reduce social and economic imbalances in the economy (SDG, 10), and ensure sustainable economic growth (SDG, 8) (UNDP,2019). In this regard, tax revenue is central to growth as it provides governments with the necessary funding required. Therefore, countries need to strengthen their tax structures to collect more and increase the ability to eradicate tax evasion and avoidance.

Economies seek to strengthen their tax policies by adopting appropriate policies that achieve the planned fiscal objectives; income redistribution, allocation of resources, and stabilizing output while supporting economic growth (Stoila and Patonov, 2012). In achieving this, the efficiency of the tax structure is critical (Engen and Skinner, 1996; Koch et al., 2005; Dasislava, 2017). The International Monetary Fund (IMF) and World Bank (2016) link the benefits of increased

revenue to improved tax systems, effective institutions, and improved social spending. Improved tax systems increase the government's capacity to finance social services (health and education), critical (electricity and roads, and other public goods). Effective institutions allow efficient execution of duties. Therefore, an understanding of the nature and scope of the relationship between the two is imperative.

Nonetheless, empirical tests on the impact of taxation on economic growth in various economies have shown mixed results. However, a large share finds a negative impact (including Young, 2004; Arisoy and Unlukaplan, 2010; Marire and Sunde, 2020). Using US data for the period 1970-1985 and evidence from a large sample of countries (107), Engen and Skinner (1996) found that taxation negatively impacts growth. Although the model had comprehensive coverage in terms of data, it addressed taxation in general but failed to determine the impact of individual sets of taxes on economic growth. Even after disaggregating individual taxes for high-income countries, Young (2004) and Arisoy and Unlukaplan (2010) reported a negative relationship between direct and indirect taxes and economic growth. Similar results are given by Marire and Sunde, (2020). The common aspect of a negative relationship is that taxes discourage capital and labour productivity (Engen and Skinner, 1996).

On the contrary, fewer studies document a positive relationship. Dasislava (2017), Stoila and Patonov (2012) provide evidence for a significant and positive relationship between direct taxes and economic growth. Similar evidence has been provided for indirect taxes (Arisoy and Unlukaplan, 201; Scarlet, 2011; Ilaboya and Mgbame, 2012). These studies confirm the Keynesian thinking that views taxes as a fiscal policy spending tool to stimulate aggregate demand, which in turn positively impacts economic growth, depending on the value of the multiplier. Given conflicting evidence in many countries, empirical tests for Zimbabwe are vital for two reasons.

Firstly, we observe that regardless of an increasing proportion of indirect tax relative to direct taxes, no attempt has been made to separate the effects of these tax heads. Related studies in Zimbabwe (Rao and Katsande, 1985; Bonga et al., 2014) document that GDP does not stimulate tax revenue. Also, Chidhakwa (1996), Ndudze et al. (2014) find that tax revenue is inelastic to changes in GDP. Dzingirai and Tambudzai (2014) document an independent relationship between economic growth and total government tax revenue.

Despite contentious results in Zimbabwe, the emphasis of such studies has been on testing the responsiveness of total tax revenue due to changes in GDP. These studies are built on the notion that countries seek to stimulate growth by increasing government expenditure, anticipating that income would raise enough tax revenue to keep fiscal balance from deteriorating. However, there is also a need to assess if revenues stimulate national output, in the long run, to stabilize national output and support economic growth. Accordingly, we disaggregate and compare the effects of indirect and direct taxes on economic growth in Zimbabwe.

Secondly, the emergence and growth of the informal sector in Zimbabwe, to become the second-largest sector globally (IMF, 2018), drove economic activity to the unmeasured economy. Reliance on direct taxes as a revenue collection strategy became challenging as most companies are not formally registered. The government shifted its focus to indirect taxes by introducing value-added tax (VAT) in 2004 and presumptive tax in 2005, further enforced in 2011 to include

hair salons and bus operators (ZIMRA, 2011). Also, the intermediate transaction tax was introduced in 2018 (Government of Zimbabwe [GOZ], 2018). Although direct tax continued to contribute more to total tax revenue for the period 2000-2007, averaging 55.7% of total tax revenue, indirect tax mainly from VAT and presumptive tax began to rise, from a contribution of 36% in 2000 to 48% in 2006, reaching its maximum of 74% in 2009 (United Nations University (UNU), 2020). After that, indirect taxes continued to contribute approximately 60% of total taxes. We, therefore, seek to determine if this change in tax structure is a good tax mobilization strategy in influencing economic activity.

The paper proceeds as follows. Section 2 gives the background to the study. In section 3, we detail the theoretical framework of our analysis and the econometric procedures used. Results presentation and discussion are done in section 4, while section 5 concludes by drawing critical recommendations.

2. Background

2.1 Global trends in taxation

Tax revenue constitutes a significant amount of government revenue in most countries, with such high-income countries in the OECD, like France collecting approximately 46% of GDP, with a regional average of approximately 33% (OECD, 2018). In 2018, the global average for high-income countries was 15.7 % of GDP, while low- and middle-income countries contributed an average of 12 % of GDP (World Bank, 2019). Figure 1 shows the average tax revenue as a share of global output for 1990-2018. Growth of taxes was realized from 1990 -2000 (14.65 -16.366) before significantly going down in 2000. Fluctuations between 2001 and 2010 indicate the changes in the relative importance of tax revenue for different countries from time to time or changes in tax bases for different countries. The period after the global financial crisis (after 2011) indicates stable global tax levels.Total tax revenue as a share of GDP is a measure of how much the economy is fueled by tax revenue (Bonga et al., 2014). As such, most economies have endeavored to raise more revenue through taxation, ensuring that the raised revenues would fuel the economy to boost national output. Figure 2 presents the relationship between world average tax revenue and the world average GDP growth rate.

Figure 1: Tax Revenue 1990-2018

Source: Authors' Compilations from World bank (2019)

Koch et al. (2005) suggest that most developed countries report negligible adverse effects on taxation because taxes are efficiently returned to consumers. Nevertheless, Figure 2 indicates a correlation between global tax revenue and global growth rate, suggesting an increase in tax revenue will enhance economic growth.

Figure 2: Comparison of Global Tax Revenue and GDP Growth rate

Source: Authors' Compilations from World bank (2019)

Ogbana and Appa (2012) argue that tax reforms improve income generation for the government to undertake socially acceptable expenditures that would translate to economic growth. Therefore, governments need to strengthen their tax structures by adopting appropriate policies that are efficient in directing economic activity in their countries.

2.2 Taxation Trends in Zimbabwe

Figure 3 presents tax revenue as a share of total government revenue for Zimbabwe for 1990-2015. It can be observed that taxes have always been a critical source of government revenue, accounting for more than 90% of total revenue in Zimbabwe. During the period 1990-1999, tax revenue constituted approximately 89% of total revenue. Then, the country still had a good credit rating and therefore could access external funding through borrowing. The tax burden increased for the period 2000-2008 to 96% due to the country's low credit rating. In 2010, tax revenue contribution to total government revenue reached its minimum; this could have been due to the positive effects of dollarization.

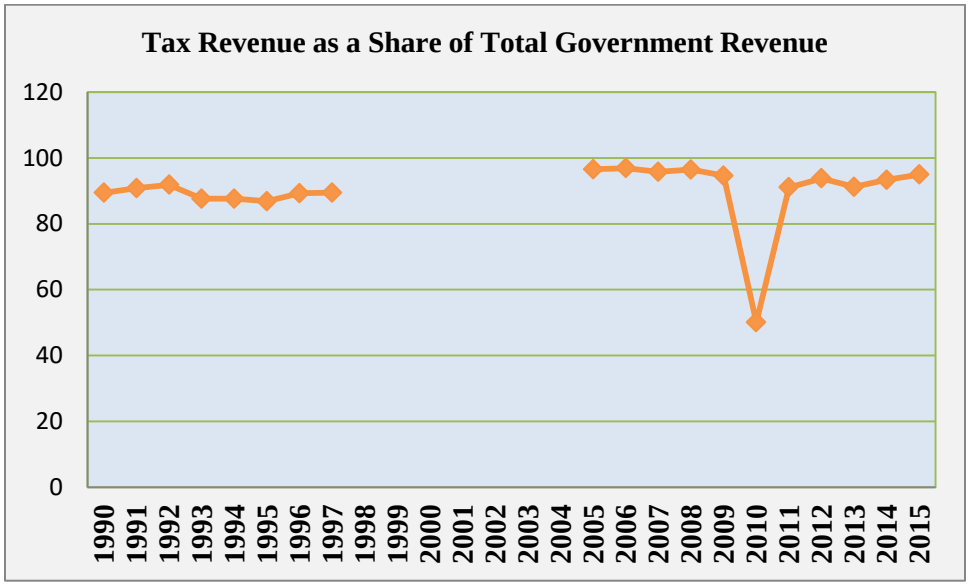

Figure 3: Zimbabwean Tax Revenue as a percentage of Total Revenue

Source: Author's Compilation from United Nations University, 2020

Tax collections started to rise again, attaining an average of 92% for 2010-2015. The increase in tax revenue has been necessitated because Zimbabwe can only raise revenue through taxes because of persistent budget deficits, with public debt averaging 70% of debt in 2019 (AFDB, 2019). External debt constituted 87% of total debt, of which 73.75% was accumulated arrears (AFDB, 2019). Failure to service debt coupled with sour international relations has dramatically affected the government's creditworthiness, leaving the government with no option but to increase tax collection strategies to ensure increased revenue collection (Ngwenya and Siziba, 2016).However, the increase in total revenue has not been matched with a positive response in national output for some parts of the period under study. Figure 4 depicts the rise in total tax revenue as a share of GDP and the resultant negative response in economic growth.

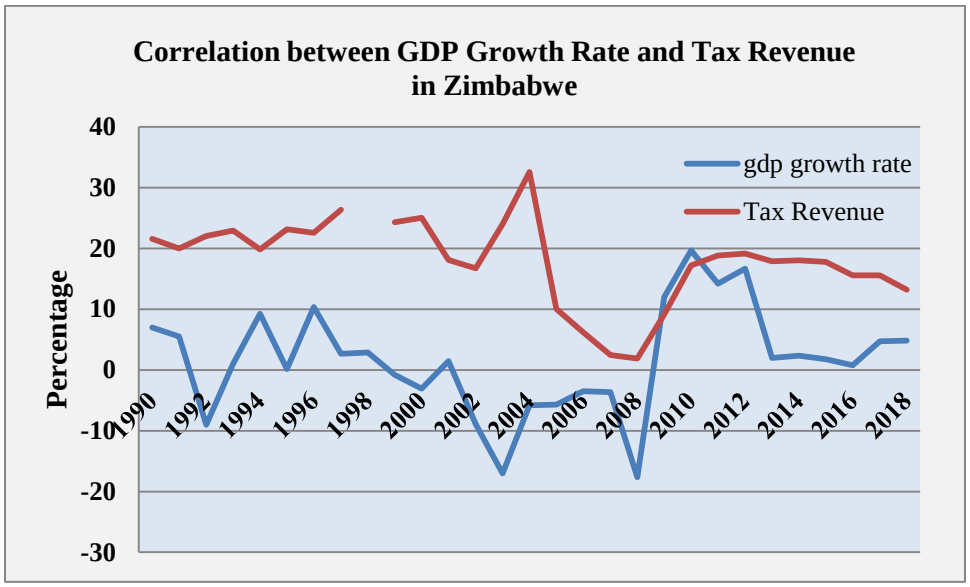

Figure 4 GDP Growth Rate and Tax Revenue as a Share of GDP

Source: Author's Compilation from United Nations University, 2020

Data for the period 1999-2008 Zimbabwe confirms the Keynesian theory that asserts that increased government spending financed through higher taxes may fuel inflationary forces, which negatively affect capital accumulation. This is mainly because it brings great uncertainty to the returns on current savings; future relative prices are essential for returns on investment. High inflation rates lead to highly negative real interest rates for savers, which reduce the flow of savings and constrain investment. On the other hand, data for the period 2008 to 2018 reveal a positive relationship between the two variables. The noted changes could have been due to changes in the tax structure, mainly dominated by indirect tax.

Although direct tax continued to contribute more to total tax revenue for the period 2000-2007, averaging 55.7% of total tax revenue, indirect tax began to rise, from a contribution of 36% in 2000 to 48% in 2006, reaching its maximum of 74% in 2009, maintaining an average of 60% of the total tax for the post dollarization period (UNU,2020). The change in the pattern of the two variables calls for an understanding of the nature and scope of the relationship between the new tax structure and economic growth.

3. Research Methodology

The study is based on the Auto-Regressive Distributed Lag (ARDL) estimation of a time series data model for Zimbabwe for the period 1990-2018. The estimated model is derived from theoretical literature and related empirical studies on the tax-economic growth nexus. As part of the econometric analysis, analysis, pre and post-diagnostic tests were carried out to ensure robustness of the results. Data were mainly collected from World Bank's World Development Indicators (WDI) database.

3.1 Conceptual Framework and Model Specification

The transmission mechanisms through which taxes affect economic growth can be derived from the famous Solow (1956) and Swan (1956) growth accounting-based Neo-Classical model. In their framework, a country's output, y, is a function of two key variables, the skill and size of its labour force, l, and the size and productivity of its capital stock, k, (Engen and Skinner (1996). The growth rate for such a country can be expressed as:

$$\dot{y}_i = \alpha \dot{l}_i + \beta \dot{k}_i + u_i \quad (1)$$

. X, i, and u denote the growth rate of variable x, cross-sectional identifier, and economy's productivity. Also, α and β measures the marginal productivities of labour and capital, respectively. Engen and Skinner (1996) utilises this specification to highlight five channels linking taxes to economic growth via labour and capital productivity. To start with, higher cooperate tax dampens capital accumulation rates. Secondly, higher personal tax may decrease labour supply by distorting labour supply decisions.

Thirdly, inefficient tax policy can depress productivity growth by reducing research and development (R&D). Also, taxes trigger an inefficient switch of investment from heavily-taxed, more productive sectors to lightly taxed but less productive sectors ((Harberger, 1962, 1966). Lastly, heavy labor supply taxes can repel workers from highly productive sectors with hefty taxes. In light of this, taxes can replace labor and capital in economic growth, as in Orkmaz et al. (2019). Accordingly, our model is expressed as:

$$GDP_t = \varphi + \gamma Tax_t + \delta X_t + \varepsilon_t \quad (2)$$

Where GDP is Gross Domestic Product, a proxy for economic growth, tax is taxes, and X is a vector of other variables affecting economic growth. ε is the error term, and t is the time period (year). In order to compare the impact of direct and indirect tax on economic growth, we split the tax variable accordingly such:

$$GDP_t = \varphi + \gamma_1 Indirect_t + \gamma_2 Direct_t + \delta X_t + \varepsilon_t \quad (3)$$

To complete the model, we add vital variables determining economic growth in Zimbabwe. First, following extensive recent literature (including Dihn et al., 2019; Bermejo et al., 2019; Ngundu and Ngepah, 2020) connecting foreign direct investment to economic growth, we add the former to (3). In addition, one other variable which cannot be ignored in analysing economic growth in Zimbabwe is inflation. Zimbabwe has been punctuated with inflation swings, reaching extremely high levels (2008) and low levels (2009). Accordingly, we add inflation ($Infl$) on the explanatory variables. Also, to capture financial sector dynamics, we include interest rates in the model. Finally, Zimbabwe is an active partner on the international market and affiliates to multilateral, regional, and bilateral trade agreements. It follows that its growth cannot be adequately explained without proxying international influence. As such, we add net exports ($Netxp$) into the specification. The model becomes:

$$GDP_t = \varphi + \gamma_1 Indirect_t + \gamma_2 Direct_t + \delta_1 Fdi_t + \delta_2 Inf_t + \delta_3 Ir_t + \delta_4 Netxp_t + \varepsilon_t \quad (4)$$

To minimise incidences of heteroscedasticity and multiollinearity in the model as well as to allow variable elasticity analysis, we transform equation (4) into a log-log model. The final model becomes:

$$lgGdp_t = \varphi + \gamma_1 lgIndirect_t + \gamma_2 lgDirect_t + \delta_1 lgFdi_t + \delta_2 lgInf_t + \delta_3 lgIr_t + \delta_4 lgNetxp_t + \varepsilon_t \quad (5)$$

3.2 Econometric Model

Parameter estimates in (5) are obtained using the ARDL estimation approach, first used by Davidson et al. (1978) and further advanced by Pesaran et al. (1999). In recent years, cointegration analysis and long-run relationship analysis are tilted inclined in favour of ARDL over other methods (Vector Error Correction (VECM) and Vector Auto-Regressive (VAR). According to Nkoro and Uko (2016) and Sunge and Makamba (2020), ARDL can be used for variables integrated at different levels, a huge possibility with time-series data.

With ARDL, unit root tests are carried out to check variables integrated at order 2, I(2), for which ARDL is inefficient (Sunge and Makamba, 2020). Also, ARDL is superior for small samples (Pesaran et al., 2001), lessens the dangers of spurious results (Ghouse et al., 2018), and provides both short-run and long-run estimates at one go, and executes the cointegration test using the Bound-Testing approach. In general, the ARDL considers the effect of the lags of both dependent (p) and independent (q) variables on the dependent variable. According to Pesaran et al. (1999), the ARDL (p, q) model, therefore, takes the form:

$$y_t = \sum_{j=1}^{p} \lambda_j y_{t-j} + \sum_{j=0}^{q} \delta_j x_{t-j} + \varepsilon_t \quad (6)$$

Where y_t is the endogenous/dependent variable, x_t represents a $kx1$ vector of exogenous variables, δ_j is a $kx1$ parameter vector, $\lambda_j$is the scalar vector, and $\varepsilon_t$is the stochastic. In error correction terms, (6) becomes:

$$\Delta y_t = \phi y_{t-1} + \beta' x_t + \sum_{j=1}^{p-1} \lambda_j^* \Delta y_{t-j} + \sum_{j=0}^{q-1} \delta_j^* x_{t-j} + \varepsilon_t \quad (7)$$

$\text{Where} = -1\left[1 - \sum_{j=1}^{p} \lambda_j\right]$; $\beta' = \sum_{j=0}^{q} \delta_j$; $\lambda_j^* = \sum_{m=j+1}^{p} \lambda_m, j = 1,2,\ldots.p-1$;
$\delta_j^* = \sum_{m=j+1}^{q} \delta_m, j = 1,2,\ldots.q-1.$

Simplifying (7) gives:

$$\Delta y_t = \phi(y_{t-1} + \theta' x_t) + \sum_{j=1}^{p-1} \lambda_j^* \Delta y_{t-j} + \sum_{j=0}^{q-1} \delta_j^* x_{t-j} + \varepsilon_t \quad (8)$$

In (8), $\theta = -\left[\frac{\beta}{\phi}\right]$ shows the long-run elasticities of x_t on y_t. ϕ is the speed of adjustment or error correction term. It measures the speed with which y_t moves back to long-run equilibrium following disturbances in x_t (Seka et al., 2015). A significantly negative θ indicates convergence and stability in the long-run relationship (Ghouse et al., 2018). Short-run elasticities of the endogenous and exogenous variables are shown by their respective lagged differences, λ_j^* and δ_j^*, respectively. Applying (8) to the theoretical model (5) leads to:

$$lgGdp_t = \phi(lgGdp_{t-1} - \theta_1 lgIndirect_t + \theta_2 lgDirect_t + \theta_3 lgFdi_t + \theta_4 lgInf_t + \theta_5 lgIr_t + \theta_6 lgNetxp_t) + \sum_{j=1}^{p-1} \lambda_j \Delta lgGdp_{t-j} \quad +$$

$$\sum_{j=1}^{q-1}\beta_{1j}\Delta lgIndirect_{t-j}+\sum_{j=1}^{q-1}\beta_{2j}\Delta lgDirect_{t-j}+\sum_{j=1}^{q-1}\beta_{3j}\Delta lgFdi_{t-j}+\sum_{j=1}^{q-1}\beta_{4j}\Delta lgInf_{t-j}+\sum_{j=1}^{q-1}\beta_{1j}\Delta lgIr_{t-j}+\varepsilon_t \quad (9)$$

3.3 Estimation

Before the estimation of (9), unit root tests were carried out. For robustness, two-unit root tests, the Augmented Dicky Fuller Test (ADF) by Dickey Fuller (1979) and the Phillips and Perron (PP) (1988), were carried out. The null hypothesis (H_0) of non-stationarity is tested against the alternative (H_1) stationarity for both tests. The H_0 is rejected if the probability value is less than 0.05. The optimum lag lengths in (8) were chosen using the Akaike Information Criterion (AIC).

3.4 Data Description and Sources

The researcher used published secondary data extracted from World Bank Development Indicators and Central Statistics Office of Zimbabwe publications for the period 1990 to 2018. Data descriptions and sources are given in Table 1.

Table 1: Data Description and sources

Variable	Measurement	Source
GDP	GDP in real terms	World Bank Database
Indirect taxes	Revenue from indirect taxes as a % of GDP	World Bank Database
Direct taxes	Revenue from direct taxes as a % of GDP	World Bank Database
FDI	Receipts from foreign investors as a % of GDP	World Bank Database
Interest Rates	Commercial bank's lending rates	ZimStat
Net exports	Value of exports minus imports	World Bank Database
Inflation	Year on year inflation rate	ZimStat

Source: Researcher Computation

4. Results Presentation and discussion

4.1 Descriptive Statistics

Table 2: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
GDP (USD)	29	10,8 Bln	8.4 Bln	4,4 Bln	31 Bln
Indirect taxes (%)	29	33.62	15.77	5.44	67.2
Direct taxes (%)	29	27.05	13.48	5.54	54.44
FDI (%)	29	32.73	19.63	4.95	88.07
Interest rates (%)	29	30.70	23.15	-16.31	81.33
Net Exports (%)	29	24.53	31.36	0 .1 0	163.96
Inflation (%)	29	144.85	230.30	15.73	1110.75

Source: Computation from STATA

A range can be deduced from the max-min values. For example, the maximum value of indirect taxes is 67.20%, while the minimum is 5.44% giving a range of 61.76%. The standard deviation

is essential for evaluation purposes as it indicates the spread of the values from the mean. From the table, the data indicates that inflation rates have a more significant standard deviation as compared to other variables. GDP has a standard deviation of 8.42, indirect taxes have 15.77, direct taxes have 13.48, FDI has a standard deviation of 19.63, and net exports have 23.15.

4.2 Stationarity Tests

The ADF and PP unit root test results are shown in Table 3.

Table 3: ADF and PP results including intercept and trend

Variables	ADF Level	ADF Diff	PP Level	PP Diff	ADF Level	ADF Diff	PP Level	PP Diff	Decision
	Intercept and Trend				Intercept and Trend				
lgy	-1.24	-3.52	-1.12	-4.90	0.26	-3.10	0.37	-4.26	I(1)
lgid	-2.45	-4.36	-2.57	-5.24	-1.93	-4.49	-2.10	-5.35	I(1)
lgdt	-2.55	-4.50	-3.15	-6.31	-1.58	-4.50	-2.00	-6.43	I(1)
lgfdi	-2.52	-3.81	-2.60	-4.87	-1.87	-3.87	-1.99	-4.92	I(1)
lgir	-2.02	-5.22	-2.72	-7.26	-0.74	-4.91	-1.35	-6.96	I(1)
lgnx	-3.47	-	-5.05	-	-3.28	-	-4.85	-	I(0)
lginfl	-1.68	-3.71	-2.12	-6.81	-1.78	-3.78	-2.18	-6.90	I(1)

Source: Computation from STATA

Tests are based on two stationarity properties; intercept and trend and intercept with no trend. Results indicate that only net export was stationary at level, with all variables becoming stationary after the first difference. The results validate the use of ARDL approach for analysis.

4.3 Bounds Test for Cointegration

Table 4: ARDL Bounds Test for Cointegration (Pesaran/Shin/Smith (2001)

	F-statistics			F-statistics	
Calculated F	5% F-statistic Critical Values		**Calculated t**	5% F-statistic Critical Values	
	Lower Bound	Upper Bound		Lower Bound	Upper Bound
6.54	2.45	3.61	-4.524	-2.86	-4.38

Source: Computation from STATA

From table 4, the F-statistic of 6.540 is greater than the upper bound statistic at a 5% level of significance. Also, the t-statistic of -4.524 is less than the lower bound critical value at 5%. Hence both bound test statistics confirm the existence of cointegration among variables. This necessitated long-run inference using the Error Correction Model (ECM). The ECM results are shown in Table 5.

4.4 Estimation Results and Discussions

The error-correcting term is negative and statistically significant at a 1% level and has a coefficient of 0.6228. This implies that the speed of adjustment to economic growth long-run equilibrium following disturbances in the exogenous variables is 26%. The high speed confirms

that the influence of the explanatory variables in inflation determination is relatively high. This implies the existence of a long-run association between the explanatory variables and economic growth. A high R-Squared of 88% indicates strong explanatory power, suggesting that changes in the explanatory variables explain 88% of variations in economic growth. Also, the Durban Watson test result of 1.8 indicates no autocorrelation problem among the variables in the model.

Table 5: ARDL (1, 0, 1, 1, 0, 1, 2) Error Correction Model based on AIC

Regressors	Coefficient	Std. Error	t-statistic	Prob
$lgIdirect$	-0.435**	0.154	-2.83	0.014
$lgDirect$	-0.427**	0.191	-2.24	0.044
$lgFdi$	0.386***	0.127	3.04	0.009
$lgIr$	-0.187***	0 .048	-3.90	0.002
$lgNetxpo$	-0.067*	0.037	-1.79	0.096
$lgInfl$	-0.073	0.044	-1.67	0.119
C	15.90***	3.407	4.67	0.000
ECT	-0.623***	0.138	-4.52	0.001
R^2		0.877	**AIC**	6.20
Adjuste R^2		0.764	**SIC**	10.90
Prob (F-stat)		0.000	**D.W**	1.84

***, **,* indicates 1%, 5%, and 10% significance level respectively; AIC-Akaike Information Criterion;

SIC=Schwarz Criterion; D.W=Durbin Watson

Source: Computation from STATA

Results show that indirect and direct taxes have almost a similar and significantly (5%-both) negative (-0.435 and -0.427 respectively) impact on economic growth. This suggests that a 1% increase in indirect and direct taxes caused an approximately 0.43% decrease in economic growth. Also, the findings are in tandem with theoretical predictions by Engen and Skinner (1996). In explaining the tax-economic growth nexus, Engen and Skinner (1996) argued that higher cooperation and personal tax dampens capital accumulation rates and decreases labour supply. Also, inefficient tax policy can depress productivity growth by reducing research and development (R&D). In another way, taxes trigger an inefficient switch of investment and labour from heavily-taxed, more productive sectors to lightly taxed but less productive sectors.

The theoretical explanations above suit the Zimbabwean context well. Zimbabwe is primarily an overtaxed economy. Zimbabwe's tax system characterized by high tax and inadequate revenue collection systems (African Forum and Network for Debt and Development (AFRODAD), 2011). This has two implications. The high taxes are distortionary in the sense of Engen and Skinner (1996). However, the distortions would be neutralized by efficient collection and administration of the tax revenue. High levels of corruption at ZIMRA and within the economy mean that the neutralization effect is zero. From an empirical view, the findings concur with those of Koch *et al*. (2005), Ahmad (2010), and Ilaboya and Mgbame (2012). However, the results contradict those of Arisoy and Unlukaplan (2010), Aamir et al. (2011), and Scarlet (2011).

Estimations on secondary explanatory variables provided the expected results. FDI was found to have a positive link with economic growth in the long run. This is evidenced by a positive and

statistically significant coefficient of 0.386. A percent change in FDI was responsible for approximately 0.4%. Also, inflation picked the expected negative coefficient (-0.096), though insignificant. Net exports had a weakly significant (10%) negative (-0.067) impact on economic growth. On average, Zimbabwe has been running a negative trade balance. This is associated with capital outflows and a weakening of the local currency on the international market, which may discourage economic growth. Lastly, the interest rates coefficient is also negative (-0.187) and highly significant. For long periods, the economy has failed to attract savings due to a lack of confidence in the banking sector resulting from a series of monetary and fiscal policy missteps. As a result, the interest rate has been regulating more borrowing than savings. In that respect, high rates discourage borrowing, dampens credit expansion, lowers consumption, and therefore depress output growth.

5. Conclusion

The study examined the impact of indirect taxes on economic growth in Zimbabwe for the period 1990-2018. The emergence and growth of the informal sector in Zimbabwe has seen tax authorities responding by realigning tax systems accordingly. This resulted in indirect taxes increasing relative to traditional direct taxes. Nonetheless, no empirical attempt has been made to separate the effects of these tax heads. Accordingly, we disaggregate and compare the effects of indirect and direct taxes on economic growth in Zimbabwe. Applying the Auto-Regressive Distributed Lag (ARDL) estimation technique on a time series model derived from Engen and Skinner (1996) shows that direct and indirect taxes have significant adverse economic growth effects.

Also, we find no significant impact difference between the two tax heads with coefficients of -0.427 and -0.435 for direct and indirect taxes, respectively. Furthermore, ARDL Bound Tests confirmed the existence of cointegration between both tax heads and economic growth. The findings suggest that the tax being levied by the government is mainly distortionary. They discourage capital and labour productivity. Accordingly, we recommend that authorities lower the tax rate. This should be complemented by broadening the tax base and policy measures to promote tax compliance and efficiency.

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