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THE EFFECTS OF TAX EVASION ON THE DEVELOPMENT OF GHANA: A LOOK AT THE PRIVATE SECTOR

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Abstract

Generally, the private sector is regarded as the primary engine of economic development, as it generates jobs and wealth. Using time series data and a vector error correction model, this study assessed the impact of tax evasion on Ghana's economic development from the perspective of the private sector. Data from the world development indicators for 54 African nations were analysed for data spanning 2002 to 2021. Using a technique of convenience sampling, 42 countries were sampled for the analysis. In both the long and short periods, the data demonstrate that the private sector has a significant association with development. Additionally, tax evasion has severe short- and long-term effects on development. In addition, it was determined that policymakers should concentrate on constructing a resilient macro-economy and stronger institutions to encourage the private sector's development. To promote growth and development, it is necessary to implement tax policies that allow the successful expansion of start-ups.

Keywords: Firms, Tax Evasion, Development, Private Sector, Policy, Institutions

INTRODUCTION

How a government raises money to cover its costs is through taxation on its citizens. Governments cannot build necessary infrastructure, implement necessary policies, or develop necessary programs without the revenue generated by taxes. Taxation fosters a conducive atmosphere for business and wealth creation since it influences the government's fiscal strength and development objectives. In addition, governments can provide sufficient funding for

economic activities including health care, education, farming, power generation, and infrastructure development such highways and airports, and other development goals (Wang, 2022; Iheanachor & Etim, 2022). A recent analysis estimates that countries lose roughly $500 billion per year in tax income due to worldwide tax cheating. According to a report by the Tax Justice Network, the Global Alliance for Tax Justice, and the global union federation Public Services International, countries lose a total of $312 billion per year as a result of tax abuse by multinational corporations and another $171 billion as a result of individual tax evasion (Organ, 2022; Reck & Bomare, 2022). There have been indirect losses as a result of the tax havens' race to the lowest, according to the International Monetary Fund. The analysis estimates that the indirect costs caused by the tax avoidance strategies of multinational firms are at least three times higher than the direct costs (Wier & Zucman, 2022; Nerudova, Dobranschi, Solilová, & Litzman, 2022). The European Union has lately built a more complex legal framework to tackle tax avoidance and evasion under the banner of good governance in the tax sector.

Asia has one of the lowest ratios of national tax revenue to GDP, trailing behind Europe, Africa, and Latin America. For instance, if the threshold for making tax payments is raised or VAT exclusions are expanded, or if the incidence of taxpayer noncompliance is high and the revenue agency does not account for it, the tax's revenue productivity will suffer (Juswanto & Abiyunus, 2022). Tax evaders in the region sometimes take advantage of insufficient taxation competence to conceal their income from governments (Brun, Gomez, Julien, Ndubai, Rao, & Soto, 2022). Revenue collection is hampered in developing Asian countries by a number of factors, including lengthy processes for registering taxpayers, ineffective tax collection methods, low taxpayer morale and compliance, corruption, a small tax base, and the absence of a reciprocal link between tax and public and social expenditures (Nasaye, 2022; Söderström & Wangel, 2022). The Africa Initiative, launched in 2014, aims to equip African countries with the tools they need to take advantage of global transparency improvements in the fight against tax evasion and other illicit financial flows and, ultimately, in the goal of better domestic resource mobilization to support their economic development. The 2022 edition was put together by the Global Forum, the African Union Commission, and the African Tax Administration Forum to educate decision-makers and ordinary Africans on the continent's recent successes and on-going issues (McIntyre, Aslett, & Buitendag, 2022). Tax revenue in Africa accounts for about 15% of GDP, whilst in Europe, Asia, and North America it account for about 40%. However, given the enormous needs of developing African countries, this low level of tax collection poses a threat to the continent's socioeconomic progress. It is likely that the low amounts of taxation generated and collected in these African countries are related to the underdevelopment of their

tax administration systems (Munyeka & Munzhedzi, 2022). These inconsistencies provide obstacles to effective tax collection and management.

Since Ghana is a unitary state, its central government is responsible for establishing tax policy and levying taxes over the entire country. Revenues collected by the government can be broken down into two broad categories: tax income and non-tax revenues. In 2019, GH 8.5 billion (2.5% of GDP) came in the form of non-tax revenues and grant money from donors. Most of this money came from oil surface rentals, dividends, interest, profits from oil, and taxes and charges collected by ministries, departments, and agencies (Qiao, Fan, & Rahemtulla, 2022). Non-tax revenue has been greatly aided by the discovery of oil resources on Ghanaian territory in recent years. In 2019, GH 2.7 billion, or about one-third of total non-tax revenues, came from oil firm dividends, interest and profits. Not only that, but as Ghana has entered the middle class, its donors have had to cut back on their grant funding. A year earlier, in 2015, grants made up over 6% of total government revenues (over GH 2 billion), but this year they make up less than 1% less than GH 1 billion (Sheild & Johansson, 2022).

From a legal standpoint Freytag, Schneider, and Spiegel (2022) looked into how much risk is involved in the crime of tax evasion in Ecuador, and their findings showed a strong correlation between risk and tax evasion in that country. Similar research was undertaken by Coster and Voorhout (2022) on offshore tax evasion and wealth inequality, and they came to the same conclusion: the distributional pattern of tax evasion is determined by the specific form of tax evasion, in this case the offshore of choice. Although observed variations from the deterrence model are related to failures to appropriately integrate all key variables, Jordanoska and Lord (2022) argue that deterrence information influences tax compliance decisions. Empirical data supports the behaviour dynamics of the tax system, which relies on the tax payers' sense of obligation to pay what is owed, as found in a study on the behavioural dynamics of tax evasion by (Accinelli, García, Policardo, & Sánchez-Carrera, 2022). Although some residents will make their debt payments, the vast majority will not. As more and more obedient people see how the non-payers take advantage of them, their numbers are bound to dwindle (Jamil & Ahmad, 2019). A study by Becker, Kaptchuk, and Kerns (2021) examined the effects of meditation on tax progressivism via the psychological channels of social dominance orientation and systems justification. They determined that medical professionals, compared to the general population, were much less likely to cheat the tax system because of their lower social dominance orientation. Despite the numerous literature and articles written on the topic, the effects of tax evasion on developing countries have received little attention. Researching how tax evasion has affected private sector growth in Ghana is an attempt to fill this knowledge vacuum. The study will be broken down into several sections: an introduction, a literature

review, a methodology, and finally, analysis of results, recommendations, and policy implications.

LITERATURE REVIEW

Following the publication of a seminal theoretical essay on tax evasion by Mittone (2006) the topic of tax evasion has been examined from the taxpayer's perspective as a form of game theory in which the taxpayer must determine whether or not to avoid paying taxes. That is to say, the decision to pay the tax is now similar to the decision to buy a lottery ticket. The sensible person will weigh the benefits and drawbacks of each option before settling on a choice. The goal here is to provide the greatest benefit to the taxpayer possible. Taxes are the primary source of funding for public goods like the maintenance of law and order and public infrastructure, but in a context where many governments must deal with declining revenue, rising expenditures, and resulting fiscal constraints, raising revenue remains the most important function of taxes. Assuming a certain level of income that must be produced, which is dependent on the larger economic and fiscal policies of the country in question, a wide range of broad tax policy considerations have traditionally driven the development of taxing systems. Neutrality, efficiency, certainty and simplicity, efficacy and fairness, and flexibility are all examples of these traits. These overarching principles formed the basis for the 1998 Ottawa Ministerial Conference and are now known as the Ottawa Taxation Framework Conditions in the context of the work leading up to the Report on the Taxation of Electronic Commerce (Mansell, 2001).

It was determined that these standards were adequate for assessing tax issues associated with electronic commerce at the time. In addition to these widely acknowledged concepts, equality is also a significant factor in the creation of tax policy. Taxation should aim for neutrality and equity among business activity. An optimal allocation of production means is facilitated by a neutral tax, which in turn contributes to efficiency (Sun, Guan, Cao, & Bao, 2022). When a change in prices leads to a different shift in supply and demand than would occur in the absence of tax, a distortion and the associated deadweight loss result. Furthermore, a neutral tax system is one that does neither favour nor disadvantage any one economic activity. To ensure fairness and consistency, the same tax rules should be applied to all business entities, while taking into account any unique aspects that may arise (Beckman, Ivanic, & Jelliffe, 2021). Businesses should spend as little as possible on compliance, and the government should spend as little as possible on administration. Individuals and businesses benefit from a simpler tax system since it is easier to understand their responsibilities and rights. As a result, businesses are more likely to respond appropriately and make the best possible

decisions. Because of this complexity, aggressive tax preparation is often promoted, which may lead to unnecessary economic expenditures. The goal of taxes is to raise the right amount of money at the right time while avoiding inadvertent non-taxation and double-taxation. Additionally, it is important to reduce the possibilities of flight or hiding.

Furthermore, the tax system's enforceability is crucial for its efficiency because it influences tax collection and administration. The tax structure should be flexible and dynamic enough to accommodate new technologies and industries. As governments' revenue needs evolve over time, it is essential that their tax structure can keep up. Despite the unpredictability of future developments, it is essential that the system's structural elements be robust in a shifting policy context while yet allowing governments to adjust as necessary to stay up with technology and economic advancements. Tax policy frameworks should also give careful consideration to issues of fairness. Horizontal equity and vertical equity are the two main types of equity (González-Sánchez, Medina-Salgado, & SGarcía-Muiña, 2021). If we're talking about horizontal fairness, then everyone in the same tax bracket should pay the same rate. Users may have different interpretations of the normative concept of vertical equity. In the opinion of its proponents, it suggests that the wealthiest taxpayers should pay a larger share of the tax burden in relation to their income. Whether or if it should be applied to income acquired during a given period or lifetime income, and the extent to which different countries aim to minimize economic disparities all influence how vertical equality is understood in practice. The distribution of wealth is made more equitable through the institutionalization of transfer and income taxation. The term equity can also be applied to relations between countries (Jansen, Bulder, & Müsgens, 2020).

Although tax evasion is a problem for all tax systems, the predominance of corrupt activities in Africa makes Africa's position unique, as reported by (Shandu, Maluleke, & Lekgau, 2019). The most difficult aspect of direct personal taxation as it is practiced in Africa is assessing and collecting taxes from the self-employed, including business owners, contractors, and professionals like lawyers, doctors, accountants, architects, and store owners. As pointed out by Hitchcock (2022) many self-employed people openly avoid paying taxes by reporting annual losses, while others maintain a level of lavish spending that is at odds with their reported income, which is sometimes implausibly low given the nature of their businesses. The effect of bonus tax regimes on revenue generation is analysed by (Ogolo, 2021). He contends that this justification for bonus programs should be rejected since it undermines trust in government and reduces tax collection in the long run. It is quite unlikely that sustainable development can arise from an institutional framework that favours corruption and extra-legal tax enforcement (Karpoff, 2021).

Alshira'h and Abdul-Jabbar (2019) define tax fairness as the application of equitable tax collection ideas and procedures. Unethical behaviour may emerge as a result of tax collection inequities. People may be more motivated to pay their taxes if they believe they are being taxed fairly. The long-term fairness of the fiscal system benefits from taking into account the ability of SME owners-managers to pay appropriate tax rates (Al-Rahamneh & Bidin, 2022). Taxpayers vary in their attitudes toward evading taxes; some choose to do so, while others continue to do the right thing and pay up. Taxpayers may feel more pressured and more likely to resort to tax evasion when the government raises tax rates (Kogler & Kirchler, 2020). According to Goupille-Lebret, Guillot, Piketty, and Garbinti (2018) a low tax rate is one factor that contributes to people paying a relatively small fraction of their income in taxes. It is important that taxes are equitable and reasonable for those who pay them. The concept of tax fairness is fraught with contention because taxpayers may be subjected to different rates.

Since Christ, Ortas, and Burritt (2018) seminal work, there has been a proliferation of writings on the topic of tax evasion. Christ, Ortas, and Burritt (2018) addressed both the static and dynamic aspects of tax avoidance. They drew attention to the link between tax avoidance incentives and work effort incentives. They also proved that the reported income is affected by factors such as the actual income, tax rate, penalty rate, and audit rate. How they described their results was as follows: An individual's level of risk aversion as a function of income determines whether the reported fraction rises, stays the same, or falls as real income changes. A higher tax rate was found to have a negative substitution effect because it gives tax evasion a slight advantage, whereas a higher tax rate was found to have a positive income effect since it lowers a person's net worth. They found that a larger sum of money would have to be reported if the penalty rate were higher, and that the likelihood of detection would have to be higher for a larger sum of money to be reported. There have been articles arguing that a rise in tax rates will lead to a rise in tax evasion (Górecki & Letki, 2021). According to the research, there is a correlation between income and tax evasion: as people's incomes rise, so does their propensity to cheat the system (Sahla & Ardianto, 2022). However, there is a considerable direct correlation between actual per capita income and reported taxes per return, as stated by (Bonaccorsi, et al., 2020) and more income leads to greater compliance, as implied by the empirical findings of (Cole, Ozgen, & Strobl, 2020).

The ratio of underreported tax to actual tax is higher among lower-income individuals (Flachaire, Lustig, & Vigorito, 2022). To rephrase, taxpayers with lesser incomes have a lower rate of compliance. These results imply that low-income earners often lie about their

financial situation. Contrary to Iannello, Sorgente, Lanz, and Antonietti (2021) popular belief, claims that tax evasion has nothing to do with one's financial well-being. Cismaru and Wuth (2019) argued that wage and salary income substantially mitigates tax evasion. No connection was shown between tax evasion, fines, or detection probabilities by (Kireenko, Nevzorova, & Fedotov, 2019). Similar to this finding, Vâlsan, Druică, & Ianole-Călin (2020) find no connection between the severity of the penalty and tax evasion. Tax evasion can be reduced if penalties are increased; Oats, Kirchler, and Hartmann (2019) argued that people's honesty and sense of shame are the determining factors in their tax morale. Reputational harm is represented by social stigma. It is common for the social cost of avoiding taxes to be reduced. Through the use of heart rate signals, investigate the link between psychic cost including feelings of guilt and tax compliance. They found evidence linking psychic costs with honest behaviour when filing taxes. Tax evasion is less common when people feel shame for their actions, as shown by the research of (Khalil & Sidani, 2020).

METHODOLOGY

The author analysed the connection between tax evasion, development, and private sector in Ghana using time series econometric methods. To better measure the long and short of the variables under discussion and to generate more precise coefficient estimates, this research used annual data from the World Development Indicators from 2002 to 2021; a vector error correction model is created for the cointegration relationship. The reason for the choice of time series data is the sequence of data points that occur over time. In contrast, cross-sectional data captures only a snapshot in time. In finance, a time series tracks a set of variables over time, such as an asset's price, with measurements taken at regular intervals. In other words, the data can be collected in whatever way to provide the most valuable information to the investor, or analyst reviewing the activity, with no required minimum or maximum time period. However, VECM is not limited to explaining the dynamic behaviour of the link between exogenous and endogenous factors; it can also explain the behaviour between endogenous variables. Sub-variables for tax evasions were chosen using factor analysis; they include customs and other import duties (as a percentage of tax revenue), businesses that do not report all sales for tax purposes (as a percentage of firms), other taxes payable by businesses (as a percentage of commercial profits), and profit tax (per cent of commercial profits). Exploratory factor analysis is also applied to sub-variables associated with development and the private sector in order to derive forecasted values. It is also possible to utilize principal component analysis (pca) to

select values with eigenvalues larger than one, and the factor rotation approach used is called varimax.

The theoretical model is specified and hypothesized as development (dev) being a function of tax evasion, and private sector;

Dev = f (tax, Psec) ---------- *(1)*

Where dev represents development, tax represents tax evasion, and psec is denoted for private sector.

Table 1 Description of variables, and measurement

Variable	Notation	Description & Measurement of variables
Tax evasion	Evasion	Tax evasion is measured as an index through principal component analysis (CPA) as follows; i). Firms that do not report all sales for tax purposes (% of firms), ii). Other taxes payable by businesses (% of commercial profits), iii). Profit tax (% of commercial profits), iv). Tax revenue (% of GDP), all extracted from the world development indicators(WDI)
Development	DEV	Development is measured as an index by using principal component analysis (CPA) as follows; i). Net development assistance and official aid received (constant 2020 US$), ii). Net official assistance development received (current US$), iii). Net official development received (constant 2020), iv). Research and development expenditure (% of GDP), compiled from the world development indicators (WDI)
Private Sector	Private	Private sector is measured as an index by using principal component analysis (CPA) as follows; i). Private credit bureau coverage (% of adults), ii). Public private partnerships investment in ICT (current US$), iii). Public private partnership investment in water and sanitation (current US$), iv). School enrolment, primary, private (% of total primary), v). School enrolment, secondary, private (% of total secondary), compiled from the world development indicators (WDI)

ANALYSIS

Stationarity test

Stationarity of series is a significant phenomenon because it can affect variable behaviour. If series are not stationary, a basic ordinary least squares (OLS) connection model will yield spurious regression results.

$Y_t = \partial + \beta x_t + \varepsilon_t$ ---------- (2)

The statistical features of a time series, such as its mean and variance, are said to be stationary if they remain relatively constant over the course of the series. When both are stable over time, we say that the series is stationary; otherwise, we say that it is non-stationary. Differentiation results in three distinct outcomes for a variable: first difference, and second difference. The phrase 1(0) or order 0 integration describes the situation where variables are fixed without differentiation. It is assumed that stationary series are first-order integrated after the initial difference. The stationarity of the series is investigated using the Augmented Dicky-Fuller test and the Phillip Perron test. For both the ADF and PP tests, tax evasion and development are stationary after first difference, but the private sector is not (see table2). The ADF test recommends ARDL model as the estimation technique when variables are integrated at level and first difference or when any of your variables are integrated at order two (2).

Table 2 Unit root test

	At level			**At first Difference**	
Variable	ADF Statistics	Phillip Peron Statistics	Variable	ADF Statistics	Phillip Peron Statistics
Dev	-1.514267	-1.539075		-13.24192	-13.24185
	(0.5243)	(0.5116)	Dev	(0.0000)	(0.0000)
Psec	-2.385773	-2.335862		-2.245337	-9.913554
	(0.1473)	(0.1619)	Psec	(0.1913)	(0.1719)
Tax	-1.682703	-1.660239		-13.88687	-13.99013
	(0.4383)	(0.4497)	Tax	(0.0000)	(0.0000)

Autoregressive Distributed Lag (ARDL)

The lagged value(s) of the dependent variable are included in the autoregressive distributed lag (ARDL) model, along with the current and lagged values of regressors as explanatory variables; the ARDL model uses both endogenous and exogenous variables, unlike the VAR model, which only uses endogenous variables; and the ADRL model can be specified if

variables are integrated at different levels. For those interested in the details, here is how the generalized ARDL (p q) model is defined:

$Y_{t} = r_{0i} + \sum_{i=1}^{p} \delta_i Y_{t-1} + \sum_{i=0}^{q} \beta_i X_{t-i} + \varepsilon_{it}$ ---------- (3)

Where, $\acute{Y}_t$ is a vector and the variables in (X_t') are allowed to be purely I(0) or I(1) or cointegrated, β and δ are coefficients, γ is the constant, I = 1,…., k:p, q are optimal lag orders, ε_{it} is a vector error terms-unobservable zero mean white noise vector process (serially uncorrelated or independent), where the dependent variable is a function of its lagged values, the current and lagged values of other exogenous variables in the model.

To perform the bounds test for cointegration, the conditional ARDL (p, q_1, q_2,) model with three (3) variables is specified as follows:

$$\Delta lnpsec_t = a_{01} + b11lnpsec_{t-i}\, b21lndev_{t-1} + b31lntax_{t-1} + \sum_{i=1}^{p} a_{1i}\, \Delta lnpsec_{t-i} + \sum_{i=1}^{q} a_{2i}\, \Delta lndev_{t-1} + \sum_{i=1}^{q} a_{3i}\, \Delta lntax_{t-i} + \varepsilon_{it}$$ ---------- ---------- (4)

$$\Delta lndev_t = a_{02} + b12lnpsec_{t-i}\, b22lndev_{t-1} + b32lntax_{t-i} + \sum_{i=1}^{p} a_{1i}\, \Delta lndev_{t-i} + \sum_{i=1}^{q} a_{2i}\, \Delta lnpsec_{t-1} + \sum_{i=1}^{q} a_{3i}\, \Delta lntax_{t-i} + \varepsilon_{it}$$ ---------- (5)

$$\Delta lnrtax_t = a_{03} + b13lnpsec_{t-i}\, b23lndev_{t-1} + b33lntax_{t-i} + \sum_{i=1}^{p} a_{1i}\, \Delta lntax_{t-1} + \sum_{i=1}^{q} a_{2i}\, \Delta lnpsec_{t-1} + \sum_{i=1}^{q} a_{3i}\, \Delta lndev_{t-i} + \varepsilon_{it}$$ ---------- (6)

Bounds Test

Table 3 F-Bounds Test Null Hypothesis: No levels relationship

Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	4.562145	10%	2.17	3.19
K	2	5%	2.72	3.83
		2.5%	3.22	4.5
		1%	3.88	5.3

The bounds test results in table 2 indicates that, there is a long run relationship between private sector, development, and tax evasion, in other words there is conintegration amongst the variables since the f-statistics figure of 4.562145 is higher than the lower and upper bound values at 5% level. Hence the vector error correction model will be estimated to determine the long run causality among the variables.

Vector Error Correction Model

The vector autoregressive (VAR) model was first introduced by (Sims, 1980). According to him, the VAR model provides a theory-free way for estimating economic relationships, and it represents the concurrent relationship between specified variables. VAR model is used to determine the relationship between proposed variables; however, stationary variables are required for use in VAR. If including non-stationary variables creates an issue, this is known as a spurious association, and to circumvent this issue, VECM is the superior option. VECM is utilized to determine the presence of a long-run equilibrium connection between postulated non-stationary variables. VECM and VAR models are comparable, though VECM includes an error correction term (ECT) that is a restricted VAR. To estimate the variables' long-term relationship, a vector error correction model is estimated as follows:

Vector Auto regression (VAR) is differenced to obtain a Vector Error Correction Model (VECM) by losing a lag.

$$\Delta Y_t = \gamma + \sum_{i-1}^{K-1} \phi_i \Delta Y_{t-1} + \sum_{i-1}^{K-1} \eta_i \Delta X_{t-i} + \sum_{m-1}^{K-1} \delta_m \Delta R_{t-m} + \lambda ECT_{t-1} + \mu_t \quad \text{---------- (7)}$$

Table 4 Vector Error Correction Model

Conditional Error Correction Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DEV(-1)*	0.038609	0.015405	-2.506356	0.0126
TAX(-1)	0.018737	0.009615	1.948672	0.0520
PSEC(-1)	0.026765	0.015765	1.697742	0.0903
D(DEV(-1))	0.113704	0.052177	2.179213	0.0299
D(TAX)	-0.059111	0.026493	2.231217	0.0262
D(PSEC)	0.490760	0.031175	15.74221	0.0000
D(PSEC(-1))	-0.077118	0.044631	-1.727908	0.0848

* p-value incompatible with t-Bounds distribution.

Levels Equation

Table 5 Case 1: No Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TAX	-0.485300	0.203775	2.381544	0.0177
PSEC	0.693232	0.229953	3.014667	0.0027

EC = DEV - (0.4853*TAX + 0.6932*PSEC)

From table 3, the position of the lag of development as the dependent variable is significant and positive, suggesting that the current value of development is dependent on its

prior values. There is also a negative association between tax evasion and development; a country with greater tax evasion will achieve less level of development as a country with less tax evasion since governments rely heavily on taxing to generate funds for developmental programs. Kurian (2022) conducted research on the impact of tax evasion on development and found that tax evasion practices are more prevalent in developing countries than in developed countries, and that this has impeded their development efforts because governments in developing countries are deprived of the tax revenues they need. There is also a considerable positive association between development and the role that the private sector plays in economic growth and job creation. The export of goods and services, the generation of tax revenues to finance essential social and economic infrastructure, the development of new innovative solutions that assist in addressing development challenges and, most importantly, the mitigation of climate change all play a crucial role in the global economy.

According to Sukasuka, Musonda, Ramabodu, and Zulu (2022) public-private partnerships that are more inclusive and cutting-edge are replacing the old manner of financing economic development. Isak and Mohamud (2022) argued that informal micro, small, and medium-sized enterprises dominate the private sector in Ghana, which is bad for the country's economy. To date, Ghana's economy has not been fully digitized, making it difficult for the government to attract private sector funding. A unique viewpoint on the role of the private sector in development was provided by Bokhari & Myeong (2022) who found that investments in infrastructure positively impacted the agricultural exports of developing countries. The effect is most pronounced in developing countries where the standard of living is rising. This shows, as the authors argue, that the private sector cannot contribute to the development of low-income nations without the involvement of the public sector.

Short run dynamics

Table 6 Error Correction Term

ECM Regression

Case 1: No Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(DEV(-1))	0.113704	0.051721	2.198390	0.0285
D(TAX)	-0.059111	0.026289	2.248488	0.0251
D(PSEC)	0.490760	0.030512	16.08417	0.0000
D(PSEC(-1))	-0.077118	0.043973	-1.753736	0.0802
CointEq(-1)*	-0.038609	0.014626	-2.639756	0.0000

The coefficient of the error correction term is negative and statistically significant; it also specifies the rate at which the model will re-establish equilibrium aftershocks. This suggests that the short-run dynamics converge with the long-run equilibrium by around 4%. Even in the short term, the coefficient of development is significant and positive, indicating that the present value of development is dependent on its previous value. There is also a considerable association between tax evasion and development in the short term, meaning that tax evasion can have a negative impact on development if appropriate policies are not implemented to combat it. It is also evident from table 4 that there is a positive and strong relationship between the private sector and development, and that the private sector coefficient contributes roughly 50 per cent to development in the short run, all things being equal.

Diagnostics test

Figure 1 Cusum Test

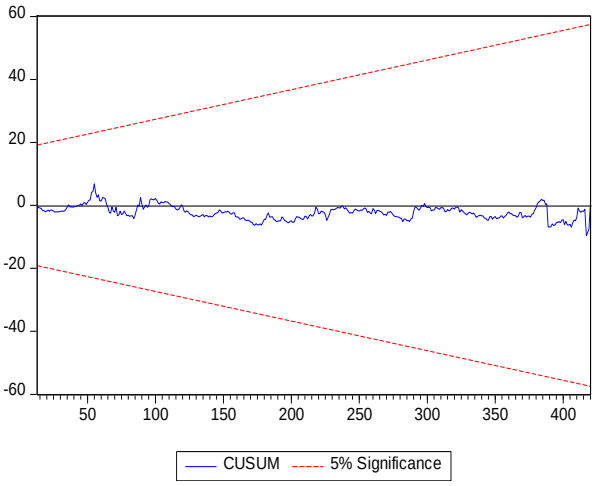

Figure 2 Stability Test

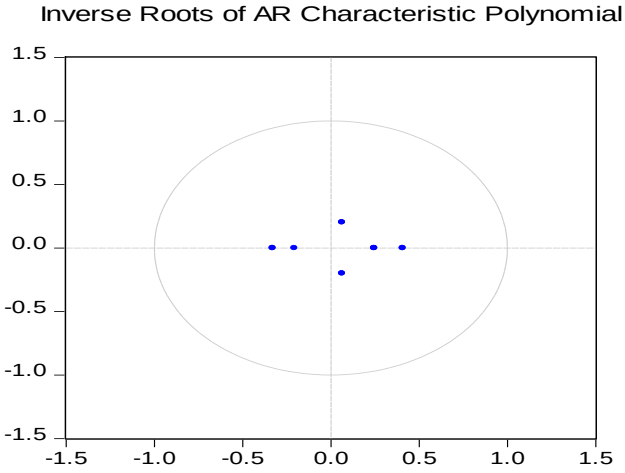

Figure 3 Normality Test

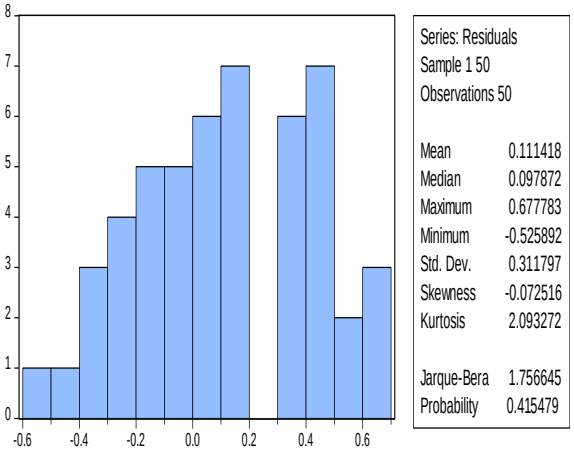

Table 7 serial correlation test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	2.130877	Prob. F(2,406)	0.1201
Obs*R-squared	4.321362	Prob. Chi-Square(2)	0.1152

Root of characteristic polynomial stability condition tests, including the Breusch Pagan-Godfrey serial correlation LM test and the Jargue Bera test for normality were employed to examine model stability. All the roots of the characteristic polynomial stability condition are contained within the unit circle, indicating that the VECM model satisfies the stability criteria. In addition, the results suggested that the null hypothesis of serial correlation was rejected, meaning that the model does not contain serial correlation. The findings of a test for heteroskedasticity indicated that we should reject the null hypothesis indicating that the residuals had constant variance. The null hypothesis is rejected for all residuals, indicating that they are normally distributed, as shown in figure three (3). The Cusum test also demonstrates that the blue line falls within 5% of the critical line, proving that residual variables are stable.

CONCLUSION, RECOMMENDATIONS AND POLICY IMPLICATIONS

Empirically, the study examined the effect of tax evasion on the development of Ghana within the perspective of the private sector. It was established that, in the short run private sector has a positive relationship with development whilst tax evasion has a negative relationship with development. In addition to driving economic growth and creating jobs, providing goods and services, and generating tax revenues that fund essential social and economic infrastructure, the private sector plays a crucial role, as stated by (Sadiq, Wen, Bashir, & Amin, 2022). The private sector also works with the public sector to improve areas including information and communications technology (ICT), water supply, education, and energy generation. Governments levy taxes on its citizens and businesses to generate revenue

for many purposes, all of which contribute to the country's overall development. This includes helping to fund public works projects and working to create an environment where businesses thrive and the economy expands.

Despite its important role in development, the private sector is hindered by obstacles such as uncertainty over government policies and macroeconomic stability, corruption, bureaucracy, regulatory quality, access to capital, and low tax incentives. Policymakers should concentrate on stabilizing the macro-economy and making investment decisions that promote the growth of the private sector. In addition, the government will need to construct stronger institutions to combat corruption, reduce bureaucracy, and facilitate access to financing for the private sector. Encourage tax policies that strive to increase the number of tax payers; this will assist reduce the tax burden on the few known taxpayers in the private sector. The study is limited to assessing the influence of tax evasion on Ghana's development. Future research will be required to examine the effects of tax evasion on economic growth throughout Africa, given that the continent is a growing economy and each nation may react differently to this hypothesis.

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