



# UNDERSTANDING THE INFLUENCE OF SHADOW ECONOMY AND FOREIGN DIRECT INVESTMENT ON CORPORATE TAX REVENUE IN LATIN AMERICA: THE MODERATING EFFECT OF CORRUPTION CONTROL

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## Abstract

Taxation is an essential mechanism that funds government expenditures and underpins the growth and development of any country. This research examines the influence of the shadow economy and foreign direct investment (FDI) on corporate income tax revenue in Latin America, considering the moderating role of corruption control. Using panel data regression analysis, we analyze data from various Latin American countries to explore the complex interactions between these economic factors and tax revenue. Our findings indicate that corruption control has a positive and significant effect on corporate income tax revenue. However, the relationship between the shadow economy and tax revenue changes when moderated by corruption control. Without moderation, the shadow economy positively impacts tax revenue, but in the presence of higher corruption control, it leads to reduced tax revenue. Similarly, while FDI initially shows a positive impact on tax revenue, this effect turns negative when considering corruption control. These findings shed light on the nuanced relationships between economic factors and tax revenue in Latin America, offering valuable insights for policy formulation and future research.

**Keywords:** Corporate Income Tax, Corruption Control, Foreign Direct Investment, Shadow Economy, Tax Revenue

## INTRODUCTION

Taxation is an essential mechanism that funds government expenditures and underpins the growth and development of any country. It provides the revenues for vital infrastructure such as roads, schools, hospitals, and public safety. Taxes also help stabilize the economy by managing inflation and unemployment rates. Moreover, taxation aims to reduce economic inequality by redistributing wealth. The relationship between a government and its citizens is greatly defined by tax systems. A transparent, fair, and comprehensive tax system can enhance trust in the government and encourage broader civic engagement (Slemrod & Bakija, 2017).

While all types of taxes are critical, corporate income tax holds a special place. Corporate taxes directly influence investment, employment, and growth. These taxes provide a significant portion of government revenue in many countries, helping to fund essential public services. Moreover, a well-structured corporate tax system can level the playing field for businesses, set the stage for healthy competition, stimulate economic growth, and foster innovation. Adjustments in corporate tax rates and regimes can have far-reaching implications, influencing business decisions like where to establish operations or when to pursue investment opportunities (Devereux & Griffith, 2003).

The practice of balancing the scales between physical resources, imported wealth, and potential taxation in any nation is a challenge, much more so in volatile economies with a significant impact from the shadow or informal sector. The shadow economy refers to economic activities that are not reported to the government for tax, regulatory, or other reasons. It is also



known as the informal economy, underground economy, or black market. The shadow economy can take many forms, including covert, informal, and illegal. The causes of the shadow economy are complex and can include factors such as high tax rates, excessive regulation, corruption, and lack of access to formal employment opportunities (Bukhtiarova et al., 2020). The consequences of the shadow economy can be specific legal violations in the economic sphere, which can have significant impacts on the state and society (Kondrat & Tylchik, 2022).

Table 1. Top 10 Countries with Highest Shadow Economy, 2018

Rank	Country	Shadow Economy (%GDP)
1	Georgia	56.56
2	Bolivia	53.83
3	Nigeria	48.17
4	Guatemala	46.97
5	Ukraine	45.40
6	Peru	44.79
7	Thailand	44.72
8	Moldova	42.88
9	Tanzania	42.65
10	Uruguay	42.41

source: World Bank

The shadow economy, an unregulated and untaxed part of a nation's economic activity, plays a significant part in Latin America's overarching economic sphere (Schneider F. , 2016). It involves businesses that aren't necessarily illicit, such as smuggling or illegal trade, but more often comprising unregistered economic activities which otherwise are legal (Medina & Schneider, 2018). As shown on Table 1, four of the top 10 countries with the highest shadow economy are Latin America countries. Latin American countries, characterized by emerging markets and relatively turbulent economic histories, serve prime examples for such circumstances.

The shadow economy, also known as the informal economy or the underground economy, refers to a sphere of economic activities that operates outside the purview of formal regulations and official oversight. This includes unreported income, undeclared employment, and informal businesses that evade taxation and official monitoring. In Latin America, the shadow economy has been a pervasive feature, often representing a substantial proportion of total economic activity. Estimates suggest that the shadow economy can account for up to one-third of the region's GDP, varying significantly across countries (Schneider et al., 2018).

The presence of a thriving shadow economy has implications for the overall economic landscape of Latin America. On one hand, it can offer avenues of survival and livelihood for millions of people, providing employment opportunities and access to goods and services for marginalized populations. It can also serve as a buffer during economic downturns, absorbing surplus labor and mitigating unemployment challenges (Loayza et al., 2005). On the other hand, the shadow economy poses challenges for formal economic institutions and governance structures. By operating in the informal sector, businesses and individuals may engage in tax evasion, underreporting their incomes, and avoiding paying taxes. This, in turn, can lead to lower tax revenue for governments and constrain public resources for essential services and development projects (Schneider, 2019).

In contrast, foreign direct investment (FDI) has emerged as a significant driver of economic growth and development in Latin America. FDI involves investments made by foreign entities in domestic businesses or assets, often with the objective of gaining a foothold in new markets or accessing strategic resources. In recent decades, Latin America has witnessed a surge in FDI inflows, particularly in sectors such as manufacturing, mining, and services



(Borensztein et al., 1998). FDI can bring in new technologies, managerial expertise, and capital, boosting economic activity and creating employment opportunities. Moreover, FDI can act as a catalyst for productivity growth, enhancing the competitiveness of domestic industries and facilitating their integration into global supply chains (Barrios et al., 2017).

The relationship between the shadow economy and FDI in Latin America is complex and multifaceted. On one hand, the presence of a large informal sector may be perceived as a risk factor by foreign investors. The lack of formal regulations and uncertainties associated with informal economic activities can raise concerns about the business environment and may deter potential FDI inflows (Elgin et al., 2018). On the other hand, the shadow economy can provide a pool of low-cost labor and entrepreneurship opportunities, attracting foreign companies seeking competitive advantages and cost efficiencies (Nunnenkamp et al., 2012).

Given the importance of these factors in shaping the economic landscape of Latin America, understanding their interactions and implications becomes imperative for policymakers, businesses, and researchers alike. This study aims to explore the effect of the shadow economy and FDI on corporate income tax revenue in Latin America. By investigating the dynamics between these variables, along with the moderating role of corruption control, this research seeks to contribute to the ongoing discourse on taxation, economic development, and governance in the Latin America region.

## **LITERATURE REVIEW**

To provide a comprehensive understanding of the existing research and scholarly work relevant to the topics of interest – the shadow economy, foreign direct investment (FDI), and corporate income tax revenue in Latin America, the author aim to delve into the vast body of literature surrounding these subjects, drawing insights from previous studies, theories, and empirical findings. By synthesizing and analyzing existing knowledge, the literature review sets the foundation for the current research, highlighting gaps, inconsistencies, and areas of interest that warrant further investigation (Dugosh, et al., 2016).

Latin America's economic landscape has been shaped by a myriad of factors, ranging from historical legacies to contemporary global economic dynamics. Among these factors, the shadow economy has garnered significant attention from researchers and policymakers alike (Medina & Schneider, 2018). The persistence and magnitude of the shadow economy in Latin America have raised questions about its impact on formal economic structures, fiscal policies, and overall economic development. Scholars have explored the multifaceted nature of the shadow economy, seeking to understand its drivers, consequences, and potential implications for tax revenue generation and public finance management (Torgler & Schneider, 2007).

Emran & Stiglitz (2004), Kodila-Tedika & Mutascu (2014), and Enste (2015) on their research found that shadow economy has negative significant impact on tax revenue. Emran & Stiglitz (2004) stated that Consumer or producer price-neutral tax reform has a major impact on welfare enhancement and revenue growth, but when the existence of a significant informal and shadow economy is taken into consideration, such reform diminishes both welfare and revenue. Kodila-Tedika & Mutascu (2014) also found on their research that the shadow economy has a significant and negative impact on tax revenues. In other word, when the shadow economy expands, tax revenues tend to decline. When the shadow economy thrives, Enste (2015) stated that businesses and individuals may engage in tax evasion, underreporting their incomes, and avoiding paying taxes. As a result, the government's tax collection from these informal economic activities decreases, leading to lower tax revenue.

Contrary to those researches, Vlachaki (2015) and Fedajev et al. (2022) found different results. Vlachaki (2015) found that as long as informality doesn't go above a certain threshold, the size of the shadow economy boosts the ratio of indirect tax revenue to GDP. The shadow



economy may be an incubator for small-scale entrepreneurs. As these businesses grow and become more profitable, they may naturally transition to the formal economy, contributing to increased tax revenue. According to study by Fedajev et al. (2022), certain aspects of the shadow economy have different effects on market and transition economies. In transition economies, a favorable political climate, greater wealth and development, and a lower tax burden all contribute to a change in shadow economy.

In parallel, FDI has emerged as a vital catalyst for economic growth and industrial development in Latin America. The region has attracted substantial FDI inflows, capitalizing on its abundant natural resources, strategic geographic location, and diverse consumer markets. Researchers have investigated the determinants and consequences of FDI in Latin America, examining its role in stimulating technological transfer, employment generation, and export-oriented industrialization (Montout & Méon, 2020; Paniagua & Sapena, 2014). However, the interplay between FDI and domestic tax revenues remains a subject of debate, with studies exploring the potential trade-offs between attracting foreign investment and preserving tax revenue for public welfare and infrastructure development (Markussen et al., 2021; Mudambi & Navarra, 2004).

The result on several studies are vary. Amendolagine et al. (2021) found that foreign direct investment flows, both inward and outward, and technological assets increase corporate tax revenues. FDI outflows can enhance domestic taxable corporate income, such as FDI inflows, regardless of worries about the possibility that investments in foreign capital could replace those in domestic capital. Surbakti & Wijaya (2023) also found that FDI and corruption control have a positive effect on tax revenues, while the moderating of corruption control weakened the influence of FDI on tax revenues. The negative impact of corruption control on FDI relations cannot be separated from the fact that corruption control is still low in most ASEAN countries. Meanwhile, Gasparèniènè et al. (2022) on his study show that total tax revenue is significantly stimulated by outbound FDI. On the other hand, the inbound FDI reduces tax revenue. Similarly, Herger et al. (2015) examines the complex relationship between tax instruments and foreign direct investment (FDI), finding that whereas corporation taxes have a negative impact on FDI, sales taxes only have a horizontal impact. Additionally, Dewi & Wijaya (2023) found FDI has no impact on tax revenue, but when it is restrained by economic growth, FDI has a significant impact. Although FDI has no impact on tax revenue directly, associated laws must be evaluated because FDI could potentially boost tax revenue. They suggest that the government may take into account the option of renewing FDI gradually in order to lessen the financial incentives for foreign investors and to lessen tax revenues owing to FDI.

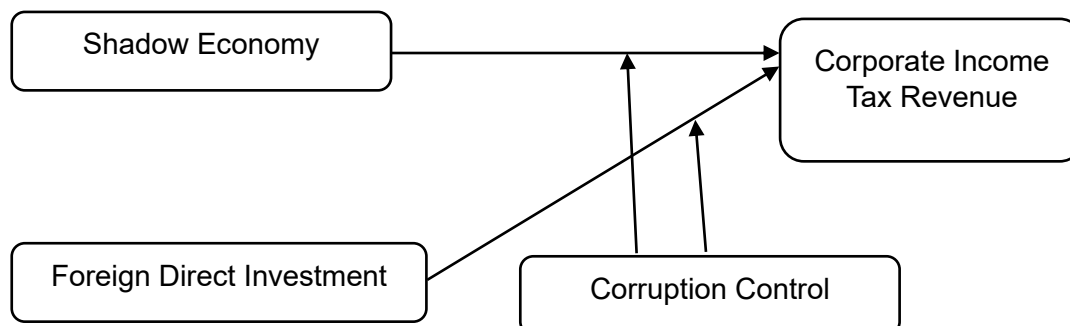
While numerous studies have contributed valuable insights into the shadow economy and FDI individually, the interaction between these two forces and their combined impact on corporate income tax revenue in Latin America merits further exploration. Notably, the role of corruption control as a moderating factor introduces a nuanced dimension to the relationship between the shadow economy, FDI, and tax revenue. Corruption has been identified as a critical determinant of economic performance in the region, affecting investment decisions, governance structures, and overall policy effectiveness (Lambsdorff, 2006; Treisman, 2000). Understanding how corruption control can shape the consequences of the shadow economy and FDI on tax revenue will provide valuable insights into the broader economic and institutional dynamics in Latin America.

Against this backdrop, this literature review seeks to synthesize the existing research, identify gaps and challenges, and propose a framework for examining the relationship between the shadow economy, FDI, and corporate income tax revenue in Latin America. By building on the knowledge accumulated by previous scholars, this study aims to contribute to the ongoing dialogue on economic development, fiscal policy, and governance in the region. The following



section will delve into the existing literature, categorizing and analyzing the studies relevant to our research objectives. Through this exploration, we seek to unveil new avenues of inquiry and provide a solid basis for the empirical analysis conducted in this study.

Research Framework:



Hypotheses:

1. There is a significant positive/negative relationship between the shadow economy (SHD) and corporate income tax revenue (CITR)
2. There is a significant positive/negative relationship between foreign direct investment (FDI) and corporate income tax revenue (CITR)
3. There is a significant positive/negative relationship between corruption control (CORC) and corporate income tax revenue (CITR)
4. The relationship between the shadow economy (SHD) and corporate income tax revenue (CITR) is significantly influenced by the level of corruption control (CORC)
5. The relationship between foreign direct investment (FDI) and corporate income tax revenue (CITR) is significantly influenced by the level of corruption control (CORC)

## METHODS

The research method used by the author is quantitative associative. Quantitative research is research that involves numbers, starting from data collection, analysis and presentation of results. Meanwhile, associative research has the aim of knowing the relationship between variables, which in this study is used to determine the relationship between the independent variable and the dependent variable (Sugiyono, 2017).

This research uses secondary data collection techniques that have previously been published by the multiple sources such as OECD and World Bank. Secondary data analysis is a data processing technique by utilising data that has been provided by third parties (Martono, 2010). The research data includes corporate income tax revenue, shadow economy, and foreign direct investment in Latin America countries from 2009 to 2018. The studied variables can be seen in Table 6.

Table 6. Variables

Variables	Unit	Scale
<b>Dependent Variable</b>		
Corporate Income Tax Revenue (CITR)	Per cent	Ratio
<b>Independent Variables</b>		
Shadow Economy (SHD)	Per cent	Ratio
Foreign Direct Investment (FDI)	Per cent	Ratio
<b>Moderating Variable</b>		
Corruption Control (CORC)	Index	Ratio
<b>Control Variable</b>		



Government Effectiveness (EFF)	Index	Ratio
Urban Population (URB)	Per cent	Ratio

Researchers conducted analyses using multiple linear regression methods with panel data types. According to Baltagi (2005, cited in Sihombing, 2022), there are three modelling in panel data regression, namely the common/pooled model (PLS), fixed-effect model (FE), and random effect model (RE). Of the three models, a test was conducted to select the best model for understanding the relationship between variables. The model selection test can be seen in Table 7.

Table 7. Panel Data Model Selection

Comparison	Method	Null Hypothesis	Alternative Hypothesis
PLS and FE	Chow test	PLS model is better than FE	FE model is better than PLS
PLS and RE	Lagrange Multiplier (LM) test	PLS model is better than RE	RE model is better than PLS
FE and RE	Hausman test	RE model is better than FE	FE model is better than RE

Furthermore, the author conducts a classical assumption test which aims to ensure that the regression coefficient is not biased, as well as ensuring that the data is consistent and has accuracy in estimation (Ghozali, 2016). The classical assumption tests can be seen in Table 5.

Table 8. Classical Assumption Tests

Tests	Methods	Null Hypothesis	Alternative Hypothesis
Normality	Skewness and Kurtosis	Data are normally distributed	Data are not normally distributed
Multicollinearity	Variance Inflation Factor	No perfect multicollinear variables	Perfect multicollinear variables
Heteroscedasticity	Breusch-Pagan/Cook-Weisberg	Data variant are homoscedastic	Data variant are heteroscedastic
Autocorrelation	Wooldridge	No autocorrelation	Autocorrelated

After choosing the best model and ensuring that the data fulfils the classical assumption test, the data is processed using the Stata application. The regression equation from this test is as follows:

$$CITR = \alpha + \beta_1 SHD + \beta_2 FDI + \beta_3 CORC + \beta_4 SHDcorc + \beta_5 FDIcorc + \beta_6 EFF + \beta_7 URB + \varepsilon$$

The dependent variable, Corporate Income Tax Revenue (CITR) is representing the proportion of tax revenue generated from corporate entities. The independent variables considered are the Shadow Economy (SHD) and Foreign Direct Investment (FDI), both reflecting the extent of informal economic activities and foreign investment in the economy, respectively. Additionally, a moderating variable of Corruption Control (CORC) is included, assessing the effectiveness of anti-corruption measures in the country. To account for potential interaction effects, SHDcorc and FDIcorc variables are generated, representing the joint impact of Shadow Economy and Foreign Direct Investment with Corruption Control on CITR. Furthermore, we control for Government Effectiveness (EFF) and Urban Population (URB), both measured as indices on a ratio scale, to consider their potential influence on the relationship. The regression model is represented as the equation above where  $\alpha$  denotes the intercept term and  $\beta_1$  to  $\beta_7$  represent the regression coefficients estimating the impact of each variable on CITR, holding other variables constant. By employing this regression model, we aim to shed light on the factors affecting Corporate Income Tax Revenue and contribute to a



deeper understanding of the dynamics between tax revenue and economic indicators in the context of this study.

**RESULT AND DISCUSSION**

Based on the results of the analysis with the panel data type multiple linear regression method, the author divides the test results into four parts, namely descriptive analysis, panel model selection result, classical assumption tests result, and regression result based on the selected model.

Table 9. Descriptive analysis

Variable	Mean	Standard Deviation	Minimum Value	Maximum Value
CITR	3.22	1.13	1.07	5.81
SHD	34.33	12.09	16.05	62.57
FDI	3.85	2.18	-0.90	12.47
CORC	-0.07	0.74	-0.92	1.58
EFF	0.02	0.50	-0.75	1.27
URB	76.50	13.20	48.10	95.33

The descriptive analysis results for the variables in our study are presented in the Table 9. The variables include Corporate Income Tax Revenue (CITR), Shadow Economy (SHD), Foreign Direct Investment (FDI), Corruption Control (CORC), Government Effectiveness (EFF), and Urban Population (URB). On average, CITR constitutes approximately 3.22% of the total revenue, with a standard deviation of 1.13, indicating some variability around this mean. The estimated proportion of informal economic activities (SHD) is 34.33%, varying by about 12.09 percentage points from the mean. FDI accounts for around 3.85% of the economy, with a deviation of 2.18 percentage points, and shows both positive and negative values. Corruption Control is relatively low on average (-0.07), with a standard deviation of 0.74, implying differing levels of anti-corruption effectiveness across observations. Government Effectiveness is near-neutral (mean of 0.02) with a standard deviation of 0.50, and Urban Population stands at 76.50% on average, varying by approximately 13.20 percentage points.

Table 10. Panel model test results

Method	Prob. Value	Result
Chow test	0.000	FE model is better than PLS
Lagrange Multiplier (LM) test	0.000	RE model is better than PLS
Hausman test	0.356	RE model is better than FE

As the result shown on Table 10, to choose the best panel model between Partial Least Square (PLS), Fixed Effect (FE) and Random Effect (RE), the author first compares PLS with FE and the Prob value  $< \alpha$  is 0.000 so FE is chosen as a better model. Furthermore, the author compared PLS with RE and obtained a Prob value  $< \alpha$ , namely 0.000 so RE was chosen over PLS. Finally, the Hausman test was conducted to select the best panel model that is either FE or RE. From the Hausman test results, the Prob  $> \alpha$  value is 0.356 so the Random Effect (RE) is selected as the panel model used in this test.

Moreover, the requirement in regression analysis is to fulfil the classical assumption test in the form of normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test (Gujarati, 2003). This can ensure that the regression coefficient is not biased, as well as ensuring that the data is consistent and has accuracy in estimation. In testing the classical assumptions, the author obtained the results as shown in Table 11 below:



Table 11. Classical Assumption Test

Tests	Methods	Prob>chi2
Normality	Skewness and Kurtosis	0.0030
Multicollinearity	<i>Variance Inflation Factor</i>	7.28
Heteroscedasticity	Breusch–Pagan/Cook–Weisberg	0.5625
Autocorrelation	Wooldridge	0.0000

From the skewness and kurtosis test, the result indicates that the residuals' distribution significantly deviates from a normal distribution (p-value = 0.0030). The assumption of normality is likely violated, suggesting that the residuals may not follow a perfect normal distribution. However, according to Central Limit Theorem (CLT), it states that as the sample size increases, the sampling distribution of the sample mean approaches a normal distribution, even if the underlying population is not normally distributed (Hoeffding & Robbins, 1948). Despite the normality test suggests that the assumption of normality for the residuals may be violated, the CLT comes into play when the sample size is sufficiently large, typically considered to be at least 30. In this case, the it contains at least 1200 data. Therefore, it can still allow the author to make inferences and perform hypothesis tests based on the sample mean, assuming normality.

In the multicollinearity test using the Variance Inflation Factor, the VIF value is 7.28 and it is less than 10. There is no strong evidence of severe multicollinearity among the independent variables in the model. Thus, it can also be concluded that there is no multicollinearity. Similar to the multicollinearity test result, the heteroscedasticity test does not find significant evidence of heteroscedasticity in the residuals (p-value = 0.5624). The assumption of constant variance across different levels of the independent variables appears to be met.

However, the assumption on the autocorrelation test result does not seem to be met. The test indicates significant autocorrelation in the residuals (p-value = 0.0000). The assumption of no autocorrelation may be violated, as the residuals appear to be correlated with each other across time or cross-sectional units. To deal with this problem, the author decided to use a linear regression with Panel-Corrected Standard Errors (PCSE). Panel-Corrected Standard Errors (PCSE) is a robust estimation method used in panel data regression to address both heteroscedasticity and autocorrelation in the residuals (Choi, 2009). In panel data, the observations are often correlated over time within the same cross-sectional unit. Autocorrelation occurs when the errors in one time period are correlated with the errors in previous time periods, violating the assumption of independence. This model performs well and provide an alternative estimator of standard errors that is correct for the error structures found in time-series and panel data models (Beck & Katz, 1995).

Based on the result of the panel data model selection between Partial Least Square (PLS), Fixed Effect (FE) and Random Effect (RE), the Random Effect (FE) should be chosen as the panel model used in this test. However, due to the autocorrelation test not passing the assumption, the author decided not to use the Random Effect (RE) model. Instead, Panel-Corrected Standard Errors (PCSE) is selected as the panel model used in this test. Furthermore, using the PCSE model, the test results are obtained in Table 12 below:

Table 12. Panel data regression results using the PCSE model

Variable	Coefficient	z	P> z
Shadow Economy (SHD)	0.0539	16.74	0.000
Foreign Direct Investment (FDI)	0.1137	3.63	0.000
Corruption Control (CORC)	1.8503	6.36	0.000
SHD moderated by CORC	-0.0798	-14.79	0.000
FDI moderated by CORC	-0.0891	-2.95	0.003
Government Effectiveness (EFF)	1.4932	6.47	0.000



Urban Population (URB)	0.0496	15.07	0.000
Constant	-3.1230	-9.19	0.000
Prob > chi2			0.0000
Overall R-squared			0.5921

From the corruption control variable, the coefficient for CORC is 1.8503. It is statistically significant with a z-score of 6.36 and a p-value of 0.000. This implies that a one-unit improvement in corruption control (e.g., becoming less corrupt) is associated with a 1.8503-unit increase in the dependent variable.

The relationship between the independent variable Shadow Economy (SHD) and the dependent variable Corporate Income Tax Revenue (CITR) changes when it is moderated by Corruption Control (CORC). Without the moderation, the coefficient for SHD is 0.0539, and it is statistically significant with a p-value of 0.000. This indicates that, without considering the effect of corruption control, a one-unit increase in the shadow economy percentage is associated with a positive 0.0539-unit increase in Corporate Income Tax Revenue (CITR), holding other variables constant. However, the coefficient for the interaction of SHD moderated by CORC is -0.0798, and it is statistically significant with a p-value of 0.000. This interaction term suggests that the relationship between SHD and CITR changes when the level of Corruption Control (CORC) is taken into account. The negative coefficient (-0.0798) indicates that the relationship between SHD and CITR becomes negative when we consider the moderating effect of CORC. In other words, in the presence of higher levels of corruption control, a one-unit increase in the shadow economy percentage is associated with a decrease of 0.0798 units in Corporate Income Tax Revenue (CITR), holding other variables constant.

The contrasting signs of the coefficients indicate that the effect of the shadow economy on corporate income tax revenue depends on the level of corruption control. Without considering corruption control, a higher shadow economy percentage is associated with higher corporate income tax revenue. However, when corruption control is taken into account, a higher shadow economy percentage is associated with lower corporate income tax revenue.

Comparable with that, the relationship between the independent variable Foreign Direct Investment (FDI) and the dependent variable Corporate Income Tax Revenue (CITR) also changes when it is moderated by Corruption Control (CORC). The coefficient for FDI is 0.1137, and it is statistically significant with a z-score of 3.63 and a p-value of 0.000. This indicates that, without considering the effect of corruption control, a one-unit increase in Foreign Direct Investment (FDI) percentage is associated with a positive 0.1137-unit increase in Corporate Income Tax Revenue (CITR), holding other variables constant. The coefficient for the interaction term "FDI moderated by CORC" is -0.0891, and it is statistically significant with a z-score of -2.95 and a p-value of 0.003. This interaction term suggests that the relationship between FDI and CITR changes when the level of "Corruption Control (CORC)" is taken into account. The negative coefficient (-0.0891) indicates that the relationship between FDI and CITR becomes negative when we consider the moderating effect of CORC. In other words, in the presence of higher levels of corruption control, a one-unit increase in Foreign Direct Investment (FDI) percentage is associated with a decrease of 0.0891 units in Corporate Income Tax Revenue (CITR), holding other variables constant.

The contrasting signs of the coefficients indicate that the effect of Foreign Direct Investment (FDI) on corporate income tax revenue depends on the level of corruption control. Without considering corruption control, a higher FDI percentage is associated with higher corporate income tax revenue. However, when corruption control is taken into account, a higher FDI percentage is associated with lower corporate income tax revenue.

Simultaneously, all the independent variables, including SHD, FDI, CORC, SHD moderated by CORC, FDI moderated by CORC, also with EFF, and URB as a control variable,



have statistically significant effects on the dependent variable, the CITR. The model provides a good fit to the data, explaining around 59.21% of the variation in the dependent variable. The significant interaction terms indicate that the relationships between SHD and FDI with the dependent variable are influenced by the level of corruption control.

## **DISCUSSION**

The result shows that corruption control does have a positive significant effect on corporate income tax revenue. One unit improvement in corruption control is associated with a 1.8503 unit increase in the corporate income tax revenue. This finding is in line with research by Bilicka & Seidel (2019), that corruption has a negative impact on countries' potential revenue gains from raising their tax rates. They demonstrate that corruption enhances profit shifting of European enterprises using a theoretically calculated corruption weighted tax differential. The research utilize the estimates to determine the implied tax revenue elasticities for European nations, and discover that when nations with otherwise comparable tax rates are more corrupt, their implied tax revenue elasticities are lower.

This study shows that shadow economy has positive significant effect to corporate income tax revenue. This indicates that a one-unit increase in the shadow economy percentage is associated with a 0.0539-unit increase in the corporate income tax revenue. It is contrary to several previous studies such as Emran & Stiglitz (2004), Kodila-Tedika & Mutascu (2014), and Enste (2015) where they found that shadow economy has negative significant impact on tax revenue. Emran & Stiglitz (2004) stated that Consumer or producer price-neutral tax reform has a major impact on welfare enhancement and revenue growth, but when the existence of a significant informal and shadow economy is taken into consideration, such reform diminishes both welfare and revenue. Kodila-Tedika & Mutascu (2014) also found on their research that the shadow economy has a significant and negative impact on tax revenues. In other word, when the shadow economy expands, tax revenues tend to decline. When the shadow economy thrives, Enste (2015) stated that businesses and individuals may engage in tax evasion, underreporting their incomes, and avoiding paying taxes. As a result, the government's tax collection from these informal economic activities decreases, leading to lower tax revenue.

However, this findings is in line with Vlachaki (2015). She found that as long as informality doesn't go above a certain threshold, the size of the shadow economy boosts the ratio of indirect tax revenue to GDP. The shadow economy may be an incubator for small-scale entrepreneurs. As these businesses grow and become more profitable, they may naturally transition to the formal economy, contributing to increased tax revenue. According to study by Fedajev et al. (2022), certain aspects of the shadow economy have different effects on market and transition economies. In transition economies, a favorable political climate, greater wealth and development, and a lower tax burden all contribute to a change in shadow economy.

The Foreign Direct Investment (FDI), it got coefficient of 0.1137, and statistically has a positive significant impact on corporate income tax revenue. This suggests that a one-unit increase in foreign direct investment percentage is associated with a 0.1137-unit increase in the corporate income tax revenue. Foreign Direct Investment (FDI) can positively impact tax revenue, especially corporate income tax. When foreign companies invest in a country, it boosts economic activity, leading to higher profits and more jobs (Ekanayake & Ledgerwood, 2010). As these companies grow, they contribute more corporate income tax. Moreover, FDI can benefit local businesses, creating a multiplier effect of economic growth and generating additional tax income (Su & Liu, 2016). By attracting FDI and implementing smart tax policies, countries can benefit from increased tax revenue and economic development.

This result on the FDI is in line with several previous studies such as Amendolagine et al. (2021), Gasparèniènè et al. (2022), and Surbakti & Wijaya (2023). Amendolagine et al. (2021)



found that foreign direct investment flows, both inward and outward, and technological assets increase corporate tax revenues. FDI outflows can enhance domestic taxable corporate income, such as FDI inflows, regardless of worries about the possibility that investments in foreign capital could replace those in domestic capital. On the tax revenue as general, Gasparèniè et al. (2022) on his study show that total tax revenue is significantly stimulated by outbound FDI. On the other hand, inbound FDI reduces tax revenue. Moreover, Surbakti & Wijaya (2023) also found that FDI and corruption control have a positive effect on tax revenues, while the moderating of corruption control weakened the influence of FDI on tax revenues.

The result shows that the connection between the shadow economy and corporate income tax revenue changes when it is moderated by corruption control as the shadow economy. This interaction divert the relationship between shadow economy and corporate income tax revenue, and changes into positive significant when the level of corruption control is considered. It means that the presence of higher levels of corruption control, shadow economy associated with a decreasing effect on corporate income tax revenue. It now become in line with the previous contrary shadow economy studies. It indicates that in Latin America, the shadow economy will only has a negative impact on corporate income tax revenue when the corruption control is high.

In some Latin American countries, only a few huge enterprises or international corporations may control the formal sector. These formal businesses could have substantial market power, allowing them to exercise significant control over prices and market conditions (Kurtz & Brooks, 2008). In such a scenario, the presence of a thriving shadow economy, which often consists of smaller informal businesses, can create competition for the formal businesses. The informal businesses might offer goods and services at lower prices, compelling formal businesses to reduce their profit margins and lowering their tax liability. The resulting competition from the shadow economy could lead to a positive impact on corporate income tax revenue as formal businesses strive to remain competitive. Looking to the average shadow economy rate of 34.33% in Latin america, it also contribute significantly to the overall Gross Domestic Product (GDP). When the informal sector makes a substantial contribution to the economy, it can generate more economic activities, leading to increased demand for goods and services (McNerney et al., 2018). This overall economic growth, driven in part by the shadow economy, can positively impact corporate income tax revenue as formal businesses experience improved sales and profitability. The shadow economy also often absorbs surplus labor. When the informal sector creates jobs, it can have a positive impact on household income and consumer spending, benefiting the overall economy. As household incomes increase, there could be higher consumption of goods and services, resulting in increased corporate income tax revenue for formal businesses. However, those scenario would not happen when the corruption control is high. When the corruption control is high, the number of informal sector would decrease, resulting in a less tax revenue including the corporate income tax revenue.

On the foreign direct investment, the moderation using corruption control variable is resulting in a significantly negative effect on corporate income tax revenue. This is in line with Herger et al. (2015) that examines the complex relationship between tax instruments and foreign direct investment (FDI). They found that whereas corporation taxes have a negative impact on FDI, sales taxes only have a horizontal impact.

The initial finding that foreign direct investment (FDI) had a significant positive impact on corporate income tax revenue. However, upon considering the moderation effect of corruption control, a different picture emerged, found a significant negative impact on corporate income tax revenue. One potential explanation for this change in the relationship is the presence of profit-shifting practices and aggressive tax avoidance strategies by multinational corporations operating in countries with higher corruption levels. The collusion between corrupt



officials and businesses could facilitate profit manipulation and tax evasion, leading to a reduction in the taxable income reported in the host country. This, in turn, would diminish corporate income tax revenue as multinationals exploit loopholes and transfer pricing mechanisms to shift profits to low-tax jurisdictions.

Moreover, the link between corruption and policy capture cannot be ignored. Multinational corporations with substantial economic power might influence tax policies and regulations to their advantage. In this scenario, tax incentives, preferential treatment, or special provisions may be implemented, eroding tax bases and rates, thereby negatively impacting corporate income tax revenue. The influence of corruption on investment decisions also plays a role. High corruption levels can create an atmosphere of uncertainty and risk for businesses, leading multinational corporations to become cautious about investing or expanding their operations in such environments. Reduced FDI inflows could result in lower economic activity, leading to decreased corporate income tax revenue for the host country. Furthermore, the reputational challenges faced by countries with higher corruption levels may affect investor confidence. To mitigate potential legal and reputational risks, multinational corporations may adopt stringent compliance and risk management practices, including stricter tax reporting. Consequently, this may limit the taxable income reported in the host country, negatively impacting corporate income tax revenue.

The change in the relationship between FDI and corporate income tax revenue after moderation with corruption control underscores the importance of considering the broader context and examining the impact of corruption on tax implications. Policymakers in Latin American countries must recognize these complex interactions and work towards designing effective tax policies that attract FDI while ensuring a fair and equitable contribution to corporate income tax revenue. Further research and analysis are needed to deepen our understanding of these dynamics and inform strategies that optimize tax revenue while addressing corruption challenges.

## **CONCLUSION**

The study on the influence of shadow economy and foreign direct investment on corporate tax revenue in Latin America with the moderating effect of corruption control show that corruption control had a significant positive effect on corporate income tax revenue. The relationship between the shadow economy and corporate income tax revenue was initially positive but turned negative when moderated by corruption control. In the presence of higher corruption control, a higher shadow economy percentage was associated with lower corporate income tax revenue. This implies that in Latin America, the shadow economy's negative impact on tax revenue is more pronounced when corruption control is strong.

Foreign direct investment (FDI) initially showed a significant positive effect on corporate income tax revenue. However, after considering the moderation effect of corruption control, the relationship turned significantly negative. This suggests that the presence of corruption control may lead to profit-shifting practices and tax avoidance strategies by multinational corporations, resulting in reduced taxable income reported in the host country and lower corporate income tax revenue.

Hopefully, this study could provide valuable insights for policymakers in Latin American countries, emphasizing the importance of corruption control in shaping the impact of the shadow economy and FDI on corporate income tax revenue. Policymakers should consider implementing robust anti-corruption measures to ensure fair tax contributions and prevent profit-shifting practices by multinational corporations. Additionally, efforts to promote transparency and accountability in tax policies could enhance revenue collection and foster a conducive environment for foreign investment.



However, it is essential to acknowledge the limitations of this study. The analysis is based on panel data, and while it provides valuable insights, causality cannot be determined. Moreover, the study focuses on Latin America, and the results may not be directly applicable to other regions with different economic and political contexts. Future research should delve deeper into the specific mechanisms through which corruption control influences the impact of the shadow economy and FDI on tax revenue. Further investigation into the role of specific tax policies and regulations in shaping corporate tax behavior would also enrich our understanding of the topic. Overall, this study contributes to the ongoing discussions on taxation, economic development, and the role of corruption in shaping fiscal outcomes in Latin America.

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