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The dual impact of tax evasion, does tax evasion incentivize or dampen FDI, perspectives from the emerging economies of BRICS and CIVETS blocs?

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Abstract

This study examines the dual impact of tax evasion on foreign direct investment (FDI) in emerging economies, specifically the BRICS and CIVETS blocs. It aims to assess whether tax evasion incentivizes or deters FDI inflows and explores the role of macroeconomic factors in this relationship. The study employs panel data analysis using World Bank data from 1991 to 2017. The econometric model incorporates key macroeconomic indicators, including public debt, GDP per capita growth, unemployment, and inflation, to evaluate their influence on FDI trends. A comparative approach assesses the differences in FDI responses between BRICS and CIVETS economies. The results indicate that tax evasion significantly negatively impacts FDI inflows, with a more pronounced effect in CIVETS economies due to weaker institutional frameworks and heightened economic volatility. Conversely, economic growth and effective public debt management positively influence FDI inflows, emphasizing the critical role of macroeconomic stability in attracting foreign investment. Additionally, inflation and unemployment emerge as significant determinants of FDI trends across different regions and periods. The findings highlight the necessity for policymakers to establish strong institutional frameworks and improve macroeconomic stability to alleviate the negative impacts of tax evasion on foreign direct investment (FDI). Enhancing regulatory mechanisms and promoting economic resilience can boost investment attractiveness and encourage sustainable economic growth. This study adds to the literature by providing a comparative analysis of tax evasion's effect on FDI in two significant emerging economies. It delivers empirical insights into the intricate relationship between tax policy, economic stability, and foreign investment, guiding strategies for policymakers in emerging markets.

Keywords: BRICS and CIVETS emerging economies, FDI, Tax evasion.

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1. Introduction

Economic development depends on foreign direct investment (FDI), which allows for the transfer of technology, the creation of jobs, and the deeper integration of international markets. However, academics and decision-makers widely disagree regarding the factors that influence FDI. Tax evasion is a complicated and contentious topic, and it is a persistent economic issue. Some claim that tax avoidance increases investment and lowers expenses, while others caution that it undermines financial stability and investor trust.

This paper examines the paradoxical relationship between the BRICS and CIVETS blocs. The CIVETS are Colombia, Indonesia, Vietnam, Egypt, Turkey, and South Africa, whereas the BRICS are Brazil, Russia, India, China, and South Africa. The laws, organizations, and economies of these two developing-economy groups differ. This study closes a gap in the literature by examining how tax evasion impacts foreign direct investment (FDI) and demonstrating how financial malfeasance and macro factors influence investment trends.

Socioeconomic inequality, lax legislation, and poor governance are the leading causes of tax evasion in emerging economies. These issues are more severe because the BRICS and CIVETS countries have varying degrees of institutional maturity and economic growth. Tax evasion remains common in some nations due to corruption and lax enforcement, while others have seen improvements in tax compliance and transparency. These gaps present an opportunity to investigate the impact of legislation on the relationship between FDI and tax evasion.

The structure of this paper is as follows: The literature review examines earlier studies on the connection between foreign direct investment and tax evasion, highlighting important discoveries and theoretical gaps. Two concepts that support the investigation are described in the framework: the theories of institutional vacuum and economic crime. Macroeconomic factors are also used as mediators. The data sources, sample selection, and econometric methods are covered in the methodology section, which researchers use to examine the relationship between FDI and tax avoidance. The findings are presented in the results and discussion section, drawing attention to regional variations and their effects on policymakers. Finally, the conclusion provides a summary of the main findings, addressing the impact of tax evasion on foreign direct investment and making recommendations for future study areas.

2. Literature Review and Theoretical Framework

The connection between FDI and tax avoidance has been extensively studied, but the results are frequently contradictory. According to Desai, et al. [1] tax evasion can result in cost savings and might increase a host nation's appeal to international investors. Studies, however, contradict this assertion. They emphasize that tax evasion damages credibility, infrastructure, and governance [2, 3]. Such shortcomings may put off investors who value transparency and dependability.

Recent studies have examined the relationship between tax evasion, foreign direct investment, and institutional quality. Strong governance, for instance, aids in the battle against tax evasion [4] making investment steadier. According to their research, reforms increase investor confidence and tax compliance, particularly in emerging nations.

Alm [5] also examines the impact of macroeconomic stability and tax evasion on foreign direct investment. They contend that a more stable economy can be achieved by mitigating the negative effects of tax evasion through low inflation and a moderate level of public debt. This research emphasizes the necessity of addressing financial wrongdoing from a comprehensive standpoint. To increase the appeal of FDI, we must combine monetary and fiscal measures.

Choi, et al. [6] examine sector-specific dynamics in emerging economies. They discover that tax avoidance negatively impacts FDI in public infrastructure sectors like utilities and transportation. This sectoral sensitivity draws attention to the broader consequences of tax evasion on economic growth. Inadequate public investment may exacerbate the detrimental effects on FDI.

Regional studies also shed important light on how FDI trends are influenced by tax avoidance. Kechagia and Metaxas [7] For example, they examine the CIVETS and BRICS blocs. They discover significant variations in FDI's response to tax avoidance. Their findings imply that despite problems with tax compliance, foreign investment is drawn to varied economies with strict enforcement.

Lastly, recent research emphasizes the need for international collaboration to avoid tax evasion and its impact on foreign direct investment. Keen, et al. [8] believe that global agreements and data-sharing programs are necessary to stop financial wrongdoing. By increasing tax compliance and leveling the playing field for investors, these programs lessen the uncertainty associated with international investments.

This review uses recent research to examine the relationship between tax evasion and foreign direct investment. It is complicated and draws attention to inadequacies, such as the requirement for extended research and a dearth of research on causative pathways. These problems are the focus of this investigation.

This study uses two models to investigate the relationship between FDI and tax avoidance. The economic crime hypothesis explains why businesses might avoid paying taxes [9]. It claims that a cost-benefit analysis drives this conduct. If the advantages exceed the risks, businesses will avoid paying taxes. Nonetheless, the institutional gaps framework enhances this hypothesis [10]. It demonstrates how tax evasion is made worse by ineffective governance. It diminishes the efficacy of public institutions and erodes investor trust.

Building on these theories, we derive the following hypotheses:

H_1: FDI suffers from high tax evasion. It weakens institutions and lowers government revenue. Economic crime theory serves as the foundation for this hypothesis. This implies that infrastructure development is being harmed by widespread tax cheating. Foreign investments are so discouraged.

H_2: Tax evasion hurts foreign direct investment in nations with poor institutions. The institutional voids theory is consistent with this hypothesis. It claims that the effect of financial malfeasance on investment appeal is exacerbated by poor governance.

H_3: Public debt servicing boosts foreign direct investment by demonstrating a nation's commitment to its debts and supporting infrastructure development. This hypothesis is based on the larger framework for macroeconomic stability.

H_4: Growth in GDP per capita strengthens the connection between FDI and tax evasion. This theory, which combines market potential and economic resilience, can counteract worries about financial wrongdoing by indicating market possibilities.

H_5: High unemployment rates impact FDI inflows in two ways. They encourage investment in labor-intensive industries but discourage it in high-skilled ones. This theory demonstrates how labor market conditions influence and complicate investment decisions.

The study aims to test some hypotheses and to understand, in detail, how tax evasion and related factors affect FDI in emerging economies.

3. Methodology

Panel data from the World Bank development indicators for the BRICS and CIVETS economic blocs covering 1991 to 2017 is used to connect foreign direct investment to aggregate tax evasion behavior. The available data for the primary variable of tax evasion was used to choose the period under consideration. While the BRICS group comprises Brazil, Russia, India, China, and South Africa, the CIVETS group comprises Colombia, Indonesia, Vietnam, Egypt, and Turkey. In this analysis, South Africa is a common member of both blocs but is regarded as a BRICS member. Results are shown for this set of countries. In a subsequent stage, analysis was conducted for the BRICS bloc, for CIVETS blocs individually, and during the new millennium (2000-2017).

3.1. Variables: Operational Definitions

Our method will examine the intricate relationships among tax evasion, public debt, economic growth, unemployment, inflation, and their combined effects on foreign direct investment in the CIVETS and BRICS economies. Our methodology allows for a comprehensive study of cross-sectional and time-series data, offering comparative insights using a dataset spanning over three decades for ten countries. This bridges the information gap regarding cross-regional and longitudinal research and enhances the understanding of how different regulatory frameworks can mitigate the impact of financial crime on the ability of governments and official authorities to attract foreign investment. Table 1 displays operational definitions of the study variables.

Table 1.
Variables of the study.

Variable	Abbreviation	Definition	Measurement
FDI	*fdi_gdp*	Foreign direct investment refers to the net inflows of investment aimed at acquiring a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It encompasses the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as reflected in the balance of payments. This series indicates net inflows (new investment inflows minus disinvestment) in the reporting economy from foreign investors and is divided by GDP.	*Log(fdi)*
Tax Evasion	*tax_ev*	The illegal practices employed by individuals or entities to deliberately misrepresent or conceal their true financial situation in order to reduce their tax liability.	*%*
Debt Service	*debt-service_gdp*	Public and publicly guaranteed debt service is the sum of principal repayments and interest actually paid in currency, goods, or services on long-term obligations of public debtors and long-term private obligations guaranteed by a public entity.	*Log(debt_serv)*
Growth in the GDP Per-capita	*grth_cpta*	Annual percentage growth rate of GDP per capita based on constant local currency. GDP per capita is the gross domestic product divided by the midyear population. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy, plus any product taxes, and minus any subsidies not included in the value of the products. It is calculated without making deductions for the depreciation of fabricated assets or for the depletion and degradation of natural resources.	*%*
Unemployment	*unemp*	Unemployment refers to the portion of the labor force that is without work but is available for and seeking employment.	*%*
Inflation-CPI	*inf_cpi*	Inflation, as measured by the consumer price index, reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. The Laspeyres formula is generally used.	*%*

Source: The World Bank Statistics, World Development Indicators.

3.2. Descriptive Statistics

It is always informative to look at descriptive statistics, which provide information on the mean, standard deviation, and the lowest and highest values of variables. The sample statistics that help describe and comprehend the characteristics of the data set in use are shown in Table 2. Statistics point to notable variations in the economic performance of the ten countries. The figures for FDI, which range from -2.8 to 11.9 percent of GDP, show significant variations in each nation's capacity to attract foreign investments. Statistics on tax evasion and public debt servicing reveal glaring differences in the overall financial performance of the public sector and financial crime as measured by tax evasion, with the latter ranging from 11 to 46.3 points. Economic growth per capita and unemployment vary substantially, ranging from -14.6 to 13.6 percent and 1.0 to 24.0, respectively. The main reason for the variation in these two indexes may be the significant differences in population sizes. The mean inflation shows the highest average (37.3), driven by extreme inflation values in the early 1990s, mainly in Brazil and Russia. Descriptive statistics generally indicate pronounced disparities in government investment, economic performance, and institutional frameworks.

Table 2.
Descriptive statistics.

Variable	Obs.	Mean	Std. dev.	Min.	Max.
fdi (% gdp)	269	2.4	2.1	-2.8	11.9
tax_ev	267	28.0	8.5	11.0	46.3
debt-service (% gdp)	193	1.9	1.3	0.1	6.3
grth_cpta	270	3.3	4.1	-14.6	13.6
unemp	270	8.8	5.2	1.0	24.0
inf_cpi	263	37.3	193.0	-1.7	2075.9

3.3. Tax Evasion and FDI

Figure 1 depicts the trends in tax evasion over time within the CIVETS and BRICS blocs. In the early 1990s, BRICS countries were more likely than CIVETS to engage in tax evasion. The difference decreased by the middle of the 2000s due to the improved governance of BRICS nations. However, in 2015, the BRICS score rebounded, indicating economic changes and difficulties with enforcement, while CIVETS demonstrated more consistent governance gains.

By 2015, tax evasion rates had converged, indicating the impact of regional and international anti-evasion initiatives. The BRICS' post-2015 comeback emphasizes the necessity of consistent policy initiatives. This trend supports the H1 and H2 hypotheses. It is correlated with FDI inflows because institutional and governance frameworks directly impact investor trust.

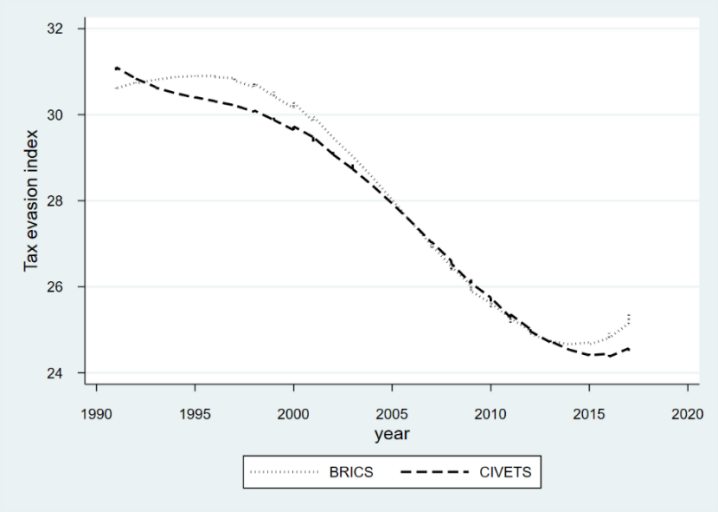

Figure 1.
Tax evasion index in BRICS vs. CIVETS blocs.

Figure 2 shows the trends in tax evasion by country. Brazil and Russia continue to face difficulties; despite slow declines, Russia maintains the top position. Significant decreases are observed in China and India, reflecting advancements in governance and compliance. Among the BRICS nations, South Africa has the lowest tax evasion index. Consistent declines are evident in CIVETS countries such as Egypt, Indonesia, and Colombia, indicating gradual improvements in tax arrangements.

Country-specific trends demonstrate the varied effects of institutional reforms. For instance, China's robust enforcement and anti-corruption initiatives are consistent with its effectiveness in lowering tax evasion. On the other hand, persistently high levels of evasion in Russia and Brazil point to the shortcomings of policy execution. This is consistent with H2, which states that weak institutions worsen the harm that tax evasion causes to foreign direct investment.

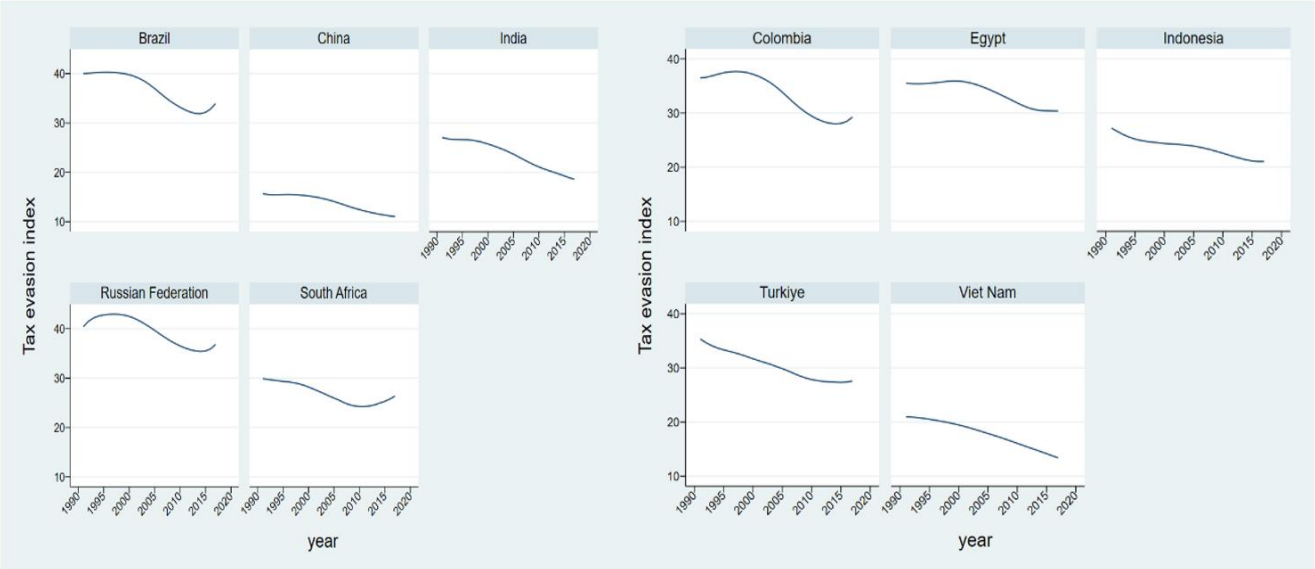

Figure 2.
Tax evasion index in BRICS and CIVETS blocs by country.

The paths of FDI inflows into the CIVETS and BRICS countries vary. Inflows into the BRICS peaked in 2008 and then declined following the global financial crisis. Compared to the BRICS, CIVETS has more steady and consistent growth in FDI inflows, reaching more significant percentages of GDP by 2020. The divergent trends highlight the significance of institutional maturity and economic stability. CIVETS attracts more reliable foreign direct investment due to their steady advances in tax compliance. The post-2008 decline of BRICS underscores economic shock-related weaknesses. Given that macroeconomic stability and public debt servicing are crucial factors in determining FDI trends, this lends credence to H3.

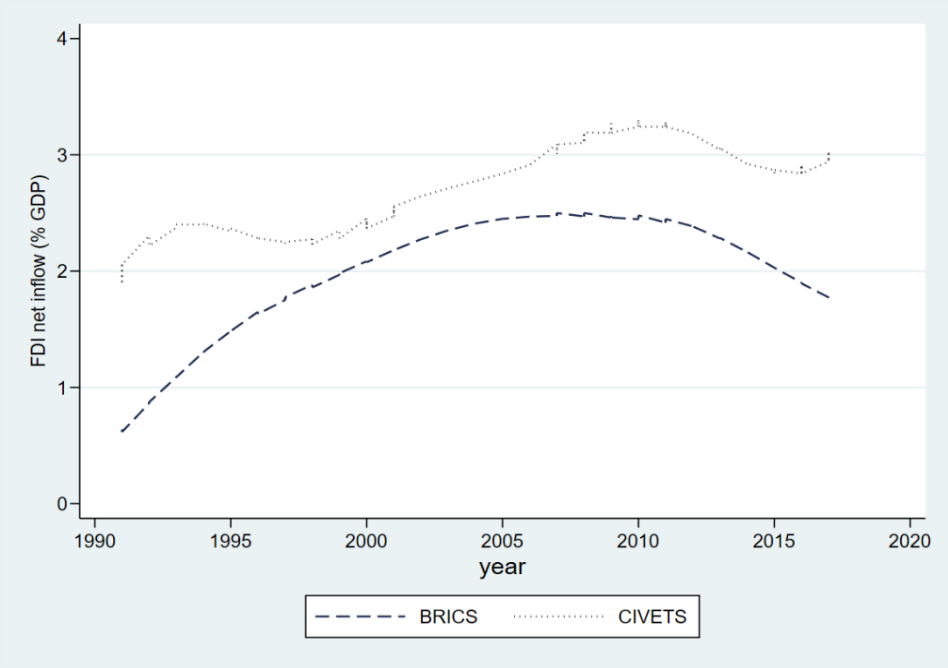

Figure 3.
FDI net inflows, BRICS vs. CIVETS blocs.

Figure 4 shows how well each nation has attracted foreign direct investment. All nations experienced growth in the 1990s and the early 2000s, but after 2008, trends changed. For example, Brazil and Russia saw significant reductions, whereas Indonesia and Turkey increased gradually. The disparity in FDI inflows emphasizes how crucial sector-specific and national factors are. Labor-intensive industries benefit nations like Indonesia, consistent with H5, which highlights the two-way impact of unemployment on FDI. The fluctuations in Russia and Brazil imply that unresolved tax evasion and unstable economies discourage long-term investment.

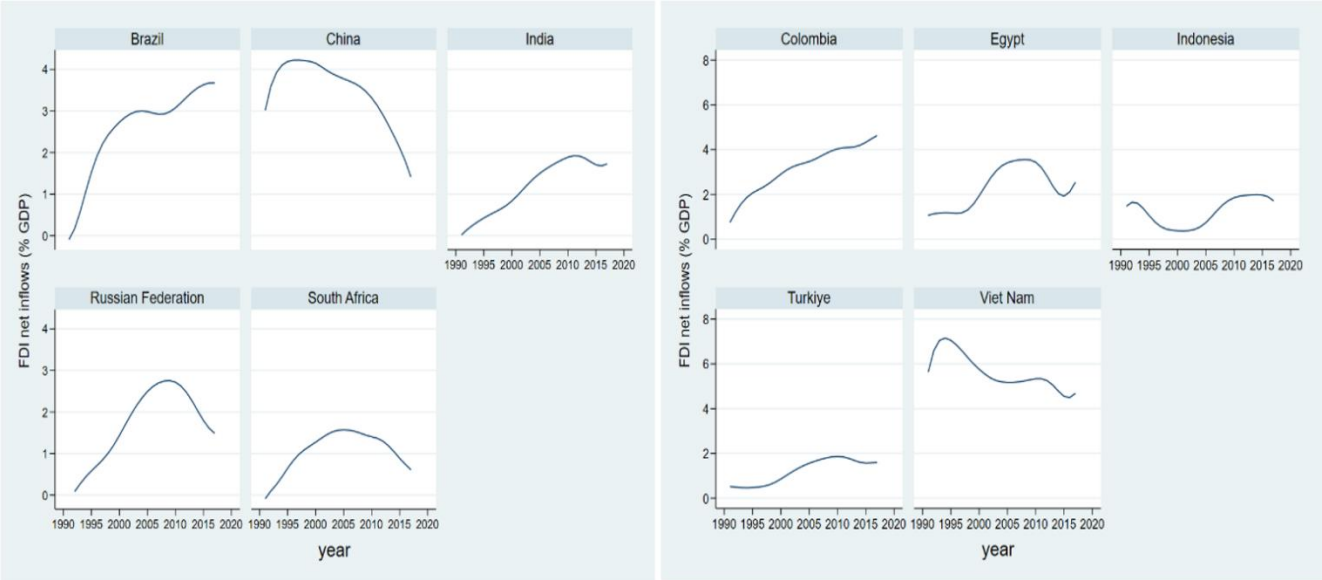

Figure 4.
FDI net inflows in BRICS and CIVETS blocs by country.

3.4. Diagnostics

Diagnostic testing provides information regarding possible data modeling. The term "regression diagnostics" refers to a group of methods used in econometrics to assess a model's validity and determine whether it satisfies statistical assumptions. The Wooldridge test for autocorrelation in panel data, the likelihood-ratio test for heteroscedasticity, the Pesaran test for cross-sectional (cross-country) dependency, and possible linear correlations (collinearity) between the explanatory variables are used to evaluate the model's applicability. The Pearson correlation matrix between the independent variables is displayed in Table 3. According to the correlation coefficients, there are no concerns about perfect linear relationships between the independent variables.

Table 3.
Multicollinearity test, Pearson correlation matrix.

	tax_ev	***logdbt***	***grth_cpta***	***unemp***	***inf_cpi***
tax_ev	1.000				
logdbt	0.066	1.000			
grth_cpta	-0.617	0.072	1.000		
unemp	0.422	-0.255	-0.524	1.000	
inf_cpi	0.203	0.091	-0.057	-0.061	1.000

Table 4 displays the findings of the Pesaran test for cross-country dependence for our variables. Regarding foreign investment, tax evasion, public debt servicing, per capita economic growth, unemployment, and inflation, the null hypothesis of cross-country independence may be rejected as the p-values are zero. The economic cooperation of BRICS and CIVETS countries within each bloc and between the two blocs is reflected in these findings, which are also associated with government spending on anti-tax evasion programs and efforts to attract international investment. Therefore, we will assume cross-country dependence and proceed accordingly.

Table 4.
Cross-sectional (cross-country) dependence, Pesaran test.

H0: cross-section independence (no correlation across panels)

Variable	**CD-test**	**p-value**	**average joint**	**mean ρ**	**mean abs(ρ)**
logfdi	22.29	0.00	25.60	0.65	0.65
tax_ev	28.47	0.00	26.47	0.82	0.82
logdbt	7.26	0.00	17.08	0.29	0.32
grth_cpta	8.61	0.00	27.00	0.25	0.28
unemp	3.89	0.00	27.00	0.11	0.42
inf_cpi	9.53	0.00	25.64	0.28	0.35

The likelihood-ratio test with p-values of 0.000 rejects the null hypothesis of the homoscedastic error term. A p-value of 0.2419 from the Wooldridge test for autocorrelation in panel data indicates no serial correlation (see Table 5). The following section discusses the model under no multicollinearity among the regressors, cross-country dependence, and heteroscedastic-independent errors.

Table 5.
Heteroscedasticity and autocorrelation test.

Likelihood-ratio test for heteroscedasticity	Wooldridge test for autocorrelation in panel data
H0: homoscedastic error	H0: no first-order autocorrelation
LR chi2(9) = 256.05	F (1, 8) = 1.597
Prob > chi2 = 0.000	Prob > F = 0.2419

3.5. The Model

The model calculates panel-corrected standard error (PCSE) estimates for linear cross-sectional time-series models. PCSE assumes that the disturbances are heteroscedastic and contemporaneously correlated across panels when calculating the standard errors and variance-covariance estimates. The model can be expressed as follows:

$$logfdi_{it} = \alpha_0 + \sum_{j=1}^{k} \beta_j \boldsymbol{X}_{it} + \varepsilon_{it} \qquad (1)$$

This equation $logfdi_{it}$ is the log of foreign direct investment for the country (i) in a year (t). A given variable's log form is interpreted as a percentage change in that variable. $\boldsymbol{X}_{it}$ is a vector of independent variables, including the tax evasion index, the log of public debt service, real GDP per-capita growth, the unemployment rate, and the consumer price index inflation. α_0 is a constant term, β_j is a vector of parameters that estimate the effects of j regressors on the dependent variable, and ε_{it} is the error term.

Fixed effects estimates may be biased when serial correlation and/or heteroscedasticity are present [11]. Potential alternatives include the Feasible Generalized Least Squares and Panel Corrected Standard Errors of Prais-Winsten [12, 13]. The following section discusses the findings under the presumptions of independent heteroscedastic errors and cross-country dependence.

4. Results and Discussions

The estimates that connect tax evasion to the expansion of foreign direct investment are shown in Table 5. The findings indicate that tax evasion negatively impacts the growth of FDI, as shown in columns 1 through 4; that is, when we use the entire sample, when we limit the analysis to the new millennium (2000-2017), and for the BRICS and CIVETS groups. A one-point increase in the tax evasion index led to a percentage drop in foreign investment of almost 0.05 percent; however, the decline is predicted to be 0.12 percent in the CIVETS bloc. This result supports the notion that tax cheating reduces government revenue and, consequently, its capacity to invest in infrastructure and other aspects that aid in attracting foreign capital.

Debt service, as a stand-in for public debt, has a favorable effect on the growth of FDI. Regardless of the magnitude of the coefficients, foreign investment rises with debt. Another intriguing conclusion indicates that the CIVETS and BRICS nations successfully increased foreign investment using external loans.

Table 5.
Regression results.

Log (FDI)	(1) full sample	(2) New millennium	(3) BRICS	(4) CIVETS
tax_ev	-0.053*** (0.005)	-0.047** (0.012)	-0.052*** (0.006)	-0.124*** (0.000)
log (debt_service)	0.970*** (0.000)	1.004*** (0.000)	0.870*** (0.000)	0.495*** (0.000)
grth_cpta	0.094*** (0.004)	0.098*** (0.001)	0.067 (0.273)	0.175*** (0.000)
unemp	-0.024 (0.296)	-0.042* (0.059)	-0.062** (0.045)	0.174*** (0.000)
inf_cpi	0.0005 (0.384)	0.031** (0.021)	-0.001 (0.276)	0.007 (0.458)
cons	2.31 (0.265)	1.57 (0.501)	5.13 (0.344)	12.94 (0.000)
R-squared	0.5753	0.6522	0.5601	0.5554
Wald chi2(5)	1606.51	5264.35	526.08	601.2
Prob > chi2	0. 000	0. 000	0. 000	0. 000
Number	189	138	106	83

Note: ***significant at 1%, ** at 5%, * at 1%, the value in parenthesis is (p-value)

Foreign direct investment benefits from economic growth. While high unemployment rates boost FDI growth in the CIVETS group, they also slow the growth of foreign investment inflows in the new millennium and the BRICS countries. This is demonstrated by the fact that higher unemployment rates raise concerns about purchasing power and deter foreign investment. In contrast, low wage rates may be associated with unemployment and encourage FDI inflows. Unemployment

rates have a detrimental effect on FDI influxes until they reach a point where they generate wage rate decreases, which would attract foreign investment to nations with low labor force wages.

While several countries (such as Brazil, Russia, and Turkey) experienced hyperinflation in the early 1990s, inflation seems negligible in determining foreign direct investment inflows. However, inflation has changed its outlook and increased foreign direct investment in the new millennium. This could raise questions about how capital flows are decided in the face of inflation and potential links to the exchange rate of the FDI recipient countries' currencies.

Finally, with R-squared values ranging between 0.555 and 0.652 and a chi-square probability of 0.000 for all regressions, our models significantly explain the variability in the growth of foreign investment inflows and appear to be decisive in connecting our independent variables to the FDI inflows.

5. Conclusions

This study clarifies the complex and frequently conflicting relationship between tax evasion and foreign direct investment in emerging nations. The results show that, although the effect is not consistent, tax cheating generally negatively influences FDI inflows. Because CIVETS countries have poorer institutional frameworks and more volatile economies than BRICS countries, the negative consequences are more noticeable there. Zhang and She [4], who stress the value of sound governance in reducing the negative consequences of financial malfeasance on investment, concur with this result.

On the other hand, economic expansion and the repayment of public debt continuously boost foreign direct investment inflows, underscoring the need for macroeconomic stability and efficient debt management. Alm [5] supports these conclusions, stressing that stable economic growth and controlled debt levels foster an atmosphere conducive to attracting foreign investment.

The analysis also shows complex relationships between FDI and other factors, including inflation and unemployment. Under some circumstances, high unemployment rates may draw investment in labor-intensive industries, but they might also initially discourage it due to worries about purchasing power. This twofold effect highlights sector-specific fluctuations in FDI responsiveness to labor market conditions, echoing findings by Choi, et al. [6].

Similarly, the effect of inflation on foreign direct investment (FDI) varies over time, reflecting its changing interaction with capital flows and exchange rate dynamics. Wei, et al. [14] offer complementary evidence, pointing out that moderate inflation can signal stable and growing economies, which attracts investment.

These insights have important policy implications. Policymakers in emerging nations must address the underlying causes of tax evasion, fortify institutional frameworks, and advance macroeconomic stability to foster an environment that is appealing to foreign investment. Future studies could expand on these findings by investigating the underlying causative processes of the observed associations and evaluating the long-term effects of tax evasion on economic growth and development.

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