

## Unveiling the Foreign Investment Magnet: Analysis of FDI Determinants and Their Impact on Corporate Tax in ASEAN

Suparna Wijaya\*

Heru Subiyantoro, Sutrisno

Universitas Borobudur, East Jakarta, Indonesia

[suparnawijaya@upnvj.ac.id](mailto:suparnawijaya@upnvj.ac.id)

### ABSTRACT

This study examines the impact of various economic and social variables on corporate income tax revenue, both directly and through foreign direct investment (FDI) as a mediating variable. The variables investigated encompass market dimensions, trade policies, macroeconomic indicators, governance, taxation policies, demographics, and pandemic impacts. Utilizing panel data from 10 ASEAN countries during the 2016-2020 period with a total of 50 observations, the analysis was conducted through a random effect regression model. The research findings reveal several significant results. Regarding FDI, market size and the Covid-19 pandemic demonstrate negative impacts, while government debt and political stability positively drive FDI growth. Concerning corporate income tax revenue, factors showing negative influences include market size, trade openness, and government debt. Conversely, corporate tax rates, tax treaties, population size, human resource quality, and FDI contribute positively to tax revenue. This study also identifies indirect effects of government debt and political stability on tax revenue through the FDI channel.

**Keywords:** ASEAN, Corporate Income Tax, Covid-19, FDI, Tax Revenue.

### INTRODUCTIONS

The role of tax as a government budget buffer and shock absorber has become increasingly vital given the consecutive global economic shocks. This series of shocks began with the COVID-19 pandemic, followed by escalating geopolitical tensions due to the Ukraine-Russia conflict, and concerns about the potential collapse of the US dollar due to possible debt default. In facing this situation, each country needs to take adaptive measures through economic policies to accelerate recovery. For developing countries in particular, Foreign Direct Investment (FDI) has become one of the main economic drivers. FDI is closely related to tax competition, which is manifested in the form of tax rate reduction and expansion of double taxation agreements (Janeba, 1995a).

Based on the Organisation for Economic Co-operation and Development (OECD) report, there has been a global trend of declining corporate income tax rates over the past two decades, including in OECD countries. The United States, for example, reduced its rate from 35% to 21% in 2020 (PWC, 2021). Canada also adjusted from 43% in 2000 to 26.5% in 2022 (OECD, 2021b). Nevertheless, some countries still maintain high rates such as France (31%), Germany (30%), and Norway (22%) in 2022, indicating variations in global corporate income tax policies (OECD, 2022a).

Amidst the declining rate trend, corporate income tax remains a primary source of government revenue, especially in developing countries (OECD, 2019a). OECD data shows that although the average combined statutory tax rate decreased by 8% (from 28% to 20%) between 2000-2022 (OECD, 2022a), the contribution of corporate income tax revenue actually increased from 12.6% to 15% (2000-2019). The ratio to GDP also rose from 2.6% to 3.1% during the same period (OECD, 2022a).

The decline in corporate income tax rates is triggered by two main factors. First, global competition in attracting foreign investment drives countries to offer more competitive tax rates. Second, digital transformation and technology adoption have changed business practices, enabling companies to shift profits to countries with lower tax rates. Consequently, countries with high rates experience tax base erosion and are forced to lower their rates to maintain competitiveness (OECD, 2021b).

The impact of this tax reduction trend remains debatable among researchers. Several studies indicate that lower tax rates can potentially increase investment and create new jobs (Davies, 2003; O. Edo & Okafor, 2020; Gasparėnienė et al., 2019; Janeba, 1995b). However, other research expresses concerns about reduced state revenue and increased social inequality (OECD, 2021). Some studies also find that low tax rates can create opportunities for tax avoidance by large corporations, potentially exacerbating economic and social inequality (Stiglitz, 2015).

The OECD and G20 in 2021 proposed solutions through "Pillar 1" and "Pillar 2" to regulate international profit shifting and implement a global minimum tax rate (OECD, 2021a). This initiative aims to prevent a "race to the bottom" in tax rate setting and ensure fair contributions from large corporations. However, its implementation still requires consensus from OECD and G20 member countries (OECD, 2021a).

Double Taxation Avoidance Agreements (DTAs) or tax treaties play a crucial role in preventing double taxation. Research by (Barthel et al., 2010; Petkova et al., 2020) shows the positive impact of DTAs on increasing FDI. However, there is a risk of DTA abuse by multinational corporations for tax avoidance through profit shifting to low-tax countries. In response, the OECD and G20 are working to reform DTAs to minimize tax avoidance practices (OECD, 2015).

Regarding recent investment developments, a global de-dollarization phenomenon has emerged, triggered by the US debt crisis. The New York Times reports that the US is on the brink of crisis due to the lack of agreement on raising the government debt ceiling of \$31.4 trillion (Rennison & Rappeport, 2023). This situation raises questions about potential impacts if the US fails to raise its borrowing limit in time, and how stakeholders are anticipating possible default by the US Treasury Department.

In response to this situation, several countries have begun moving away from using the US dollar in international trade (Rennison & Rappeport, 2023). Geopoliticeconomy.com notes that China and Russia have been using their respective currencies in bilateral trade, as have China and Brazil. The United Arab Emirates has chosen Yuan for gas sales to China through a French company. ASEAN countries are also moving towards de-dollarization by developing regional payment systems, while Kenya uses its local currency for oil transactions with the Persian Gulf (Norton, 2023).

Several studies have examined the relationship between government debt, FDI, and their impact on state revenue. A study by (Gupta, 2007) across 105 countries over 25 years found a negative correlation between state debt and tax revenue, although the impact was not significant. Research by (Hamidi & Uyan, 2017) shows that a 1% increase in external debt of EU member countries leads to a 5.74% decrease in FDI in Turkey, while a 1% increase in Turkey's national income correlates with a 3.02% increase in FDI.

A study by (Andrejovská & Puliková, 2018) analyzes the impact of various macroeconomic indicators on total tax revenue in 28 European Union (EU) countries, considering tax competitiveness aspects. The research findings reveal that the strongest correlation exists between tax revenue and employment levels, followed by FDI and GDP. Meanwhile, (Castro & Camarillo, 2014) in their study of 34 countries found that GDP per capita, industrial sector, and civil liberties have a positive influence on tax revenue, while the agricultural sector and FDI proportion in gross fixed capital formation show negative impacts.

In the context of FDI and tax revenue relationships, Aslam A. L. (2015) found that FDI contributes 77% to tax revenue in Sri Lanka. Research by (Mahmood & Chaudhary, 2013) in Pakistan confirms both long-term and short-term relationships between FDI and tax revenue, with FDI and GDP per capita showing significant positive effects on tax revenue.

A study by (Hoang, 2012) identifies factors influencing FDI, including market size, economic trade openness, infrastructure quality, human resources, and labor productivity. Exchange rate policies, interest rates, political risk, and institutional quality also play important roles. Interestingly, this research finds that cheap labor is not a factor in attracting FDI, as investors prioritize productivity. In line with this, (Kumari & Sharma, 2017), in their panel data analysis from 1990-2012 across 20 developing countries in Asia, found significant influences of market size, trade openness, interest rates, and human resources on FDI.

This research is unique compared to previous studies by positioning FDI as a mediating variable for corporate income tax revenue. It also adds new variables such as corporate income tax rates, tax treaties, COVID-19, and government debt. Given the urgency of FDI in economic recovery and the need to increase tax revenue, this research focuses on empirically examining the direct and indirect effects of various factors on tax revenue in ASEAN member countries, including market size, trade openness, inflation, government debt, political stability, corruption control, corporate income tax rates, tax treaties, population, human capital, COVID-19, and FDI.

## **THEORETICAL FRAMEWORK**

### **Optimal Tax Theory**

Optimal Tax Theory examines the best methods for designing an efficient tax system from an economic perspective. This theory seeks to identify tax structures and levels that can maximize revenue without impeding economic growth. According to Stiglitz (1987), Nobel laureate in Economics, Optimal Tax Theory emphasizes the importance of considering tax distortion effects on economic decisions while minimizing potential economic losses.

### **Theory of Corporate Taxation and Location Choice**

This theory examines how corporate taxation influences companies' decisions in determining their operational locations. One of its key concepts is "fiscal rationality," which explains companies' tendency to choose jurisdictions with lower tax burdens. Hines (1996) argues that multinational companies conduct comprehensive evaluations of tax costs and benefits

in location selection, such that tax rate differences can have substantial impacts on investment decisions and capital movement.

### **Tax Revenue Determinants**

#### ***Structural Factors***

Literature examining structural factors of tax revenue shows varied results depending on the methodology used. Rodríguez (2018) identifies various structural factors affecting tax revenue, including GDP growth, agricultural sector contribution, debt payments, financial intermediation, trade volume, inflation, aid allocation, natural resources, population, and democracy level. Tax systems are also influenced by historical and institutional factors, where countries with similar backgrounds tend to have similar taxation characteristics.

#### ***Political Motivation***

Swank & Steinmo (2002) outline that tax political economy faces three main constraints for policymakers: internationalization, domestic economic pressures, and budgetary needs. They emphasize increasing pressure for tax policy reform aimed at economic efficiency. Rodríguez (2018) identifies political motivation components in taxation including political ideology, executive elections, natural resources, and democracy. Government effectiveness, institutional strength, and legal system integrity also play roles in shaping taxpayers' perceptions of tax system fairness.

#### ***Tax Morale***

OECD (2019b) defines tax morality as taxpayers' perceptions and attitudes toward tax payment and avoidance. Cummings et al. (2009) emphasize that the main challenge for developing and transition economies is increasing compliance levels. They argue that improving tax compliance doesn't solely depend on tax-to-GDP ratios or implementing harsher sanctions. In fact, overly severe sanctions can be counterproductive by encouraging bribery and corruption. Rodríguez (2018) identifies tax morality factors including elderly population demographics, education levels, female labor participation, government effectiveness, political stability, rule of law, corruption control, and democracy level.

#### ***Administrative Barriers***

Mansfield (1988) explains that administrative barriers can significantly affect tax revenue structure, stability, efficiency, and redistribution objectives. He broadly defines tax administration as encompassing legal, public administration, sociological, psychological, and economic aspects. Rodríguez (2018) identifies administrative barriers including population density, urbanization levels, legal framework, colonial heritage, corruption control, and democracy level.

### **Influence of Market Size on Corporate Income Tax Revenue**

Market size measured through per capita income has significant impact on corporate income tax revenue. Fenochietto & Pessino (2013) and Gupta (2007) find that GDP per capita is a strong determinant of revenue performance. Castro & Camarillo (2014) also confirm positive correlation between GDP per capita and higher tax revenue.

H<sub>1</sub> = Market size has a positive effect on corporate tax revenue

### **Influence of Trade Openness on Corporate Income Tax Revenue**

Regarding trade openness, several researchers (Castro & Camarillo, 2014; Fenochietto & Pessino, 2013; Gupta, 2007; Piancastelli & Thirlwall, 2019) demonstrate significant influence between trade openness and tax revenue.

H<sub>2</sub> = Trade openness has a positive effect on tax revenue

### **Influence of Inflation on Corporate Income Tax Revenue**

Fenochietto & Pessino (2013) found a negative correlation between inflation and tax revenue, where countries with low inflation tend to have more optimal tax capacity. Immervoll (2000) shows that tax revenue decreases when policies are not adjusted to inflation rates.

H<sub>3</sub> = Inflation has a negative effect on tax revenue

### **Influence of Government Debt on Corporate Income Tax Revenue**

Regarding government debt, Gupta (2007) identifies a negative effect on tax revenue, although the impact is not very significant. Andrejovská & Puliková (2018) found a significant negative relationship between government debt and tax revenue performance.

H<sub>4</sub> = Government debt has a negative effect on corporate income tax revenue

### **Influence of Political Stability on Corporate Income Tax Revenue**

Alesina & Perotti (1993) found a positive correlation between political stability and higher tax revenue. Besley & Persson (2009) confirm that good political stability relates to higher tax compliance and reduced tax avoidance, particularly in developing countries.

H<sub>5</sub> = Political stability has a positive effect on corporate income tax revenue

#### **Influence of Corruption Control on Corporate Income Tax Revenue**

Regarding corruption control, Ajaz & Ahmad (2010) identify corruption in tax administration as a major institutional problem in developing countries. Imam & Jacobs (2007) recommend reforms to reduce corruption or increase revenue from tax categories less vulnerable to corruption.

H<sub>6</sub> = Corruption control has a positive effect on tax revenue

#### **Influence of Corporate Income Tax Rate on Corporate Tax Revenue**

Helcmanovská & Andrejovská (2021) in their study on tax rate effects on corporate tax revenue in the European Union found that effective tax rates do not have a determinant influence on tax revenue. Conversely, Fuest et al. (2020) show that although corporate tax rates in OECD countries continue to decline, the proportion of tax revenue to GDP remains stable and even increases nominally.

H<sub>7</sub> = Tax rate has a negative effect on corporate income tax revenue

#### **Influence of Tax Treaties on Corporate Income Tax Revenue**

Regarding tax treaties, Actionaid (2018) states that tax agreements can help optimize tax revenue through access to data on tax avoidance. However, Shukla et al. (2020) warn of the risk of abuse through treaty shopping schemes that can negatively impact tax revenue.

H<sub>8</sub> = Tax treaties have a positive effect on corporate income tax revenue

#### **Influence of Population on Corporate Income Tax Revenue**

Goudswaard & van de Kar (1994) found a relationship between demographic growth and changes in state revenue, where tax revenue tends to decrease with population decline and increase in elderly population. Calahorrano et al. (2019) confirm the negative impact of population aging on revenue.

H<sub>9</sub> = Population has a positive effect on corporate income tax revenue

#### **Influence of Human Resources on Corporate Income Tax Revenue**

In the context of human resources, Ghura (1998) links human capital with public services and tax revenue, showing a positive correlation between human capital development and tax revenue. This relates to taxpayers' willingness to fulfill tax obligations when they see their tax contributions.

H<sub>10</sub> = Human resources have a positive effect on tax revenue

#### **Influence of Covid-19 on Corporate Income Tax Revenue**

OECD (2022b) reports a decline in tax revenue in Asia-Pacific by 1.2% of GDP in 2020. Țibulcă (2022) shows tax revenue decline in 2020-2021 in EU countries. Makananisa (2020) confirms the negative impact of Covid-19 on all types of tax revenue in South Africa.

H<sub>11</sub> = Covid-19 has a negative effect on corporate income tax revenue

#### **Influence of FDI on Corporate Income Tax Revenue**

Regarding FDI, Gnanon (2020) found positive FDI impact on non-resource tax revenue across 172 countries. Mahmood & Chaudhary (2013) confirm positive and significant FDI influence on corporate income tax revenue in Pakistan, both long-term and short-term.

H<sub>12</sub> = FDI has a positive effect on corporate income tax revenue

#### **FDI's Mediating Effect on Independent Variables' Impact on Corporate Income Tax Revenue**

Based on review of previous research on FDI determinants and corporate income tax revenue determinants:

H<sub>13</sub> = FDI significantly mediates the impact of independent variables on corporate income tax revenue

### **RESEARCH METHODS**

The research utilizes secondary data obtained from multiple sources. Tax revenue and corporate income tax rate data were obtained from the OECD, tax treaty data from the respective tax authorities' websites of ASEAN member countries, government debt data from the International Monetary Fund (IMF), human capital data in the form of the Human Development Index from the United Nations Development Programme (UNDP), while other data were sourced from the World Bank. The observation period spans from 2016 to 2020. The data was processed and presented in panel form to provide richer information, greater variability, lower collinearity between variables, more degrees of freedom, and higher efficiency (Gujarati, 2004).

The population in this study consists of 10 ASEAN member countries: Brunei Darussalam, Indonesia, Cambodia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam. The data population is balanced with a total of 650 observed data points. The secondary data used in this study was sourced from tax authority revenue reports of each ASEAN country, World Bank, IMF, OECD, and UNDP. Data was obtained through the respective data providers'

websites: World Bank (data.worldbank.org), IMF (data.imf.org), OECD (stats.oecd.org), UNDP (hdr.undp.org), as well as other sources relevant to this research topic.

This research examines the influence of independent variables on the dependent variable mediated by an intervening variable. The dependent variable is tax revenue. The independent variables are market size, trade openness, inflation, government debt, political stability, corruption control, corporate income tax rate, tax treaties, population, human capital, and Covid-19. Meanwhile, the intervening variable is Foreign Direct Investment (FDI). The research model can be expressed in the following equation:

$$CITR_{it} = \alpha + \beta_{12} LnSIZE_{it} + \beta_{13} OPEN_{it} + \beta_{14} INF_{it} + \beta_{15} LnDEBT_{it} + \beta_{16} POL_{it} + \beta_{17} COR_{it} + \beta_{18} RATE_{it} + \beta_{19} TREATY_{it} + \beta_{20} LnPOP_{it} + \beta_{21} HDI_{it} + \beta_{22} COV_{it} + \beta_{23} FDI_{it} + \varepsilon_{it}$$

Dimana:

$CITR_{it}$  = corporate income tax revenue

$FDI_{it}$  = FDI realization

$LnSIZE_{it}$  = market size

$OPEN_{it}$  = trade openness

$INF_{it}$  = inflation

$LnDEBT_{it}$  = government debt

$POL_{it}$  = political stability

$COR_{it}$  = corruption control index

$RATE_{it}$  = corporate income tax rate

$TREATY_{it}$  = number of tax treaties

$LnPOP_{it}$  = population

$HDI_{it}$  = human development index

$COV_{it}$  = Covid-19 pandemic

$\beta_1$  s.d.  $\beta_{23}$  = regression coefficients

$\varepsilon$  = error term

## RESULTS AND DISCUSSION

### Descriptive Statistical

In this research, descriptive analysis provides an overview of data distribution using measures of central tendency and dispersion.

Table 1 Descriptive Statistic

	CI TR (Bil )	FD I (Bil )	SIZ E (Bil )	OPE N (%)	IN F (%)	POL	CO R	POP (Mil )	HD I	RA TE (%)	TREA TY	DE BT (Bil )	CO V
Mean	11.8	14.9	298	116.6	2.29	0.09	-0.15	65.57	72.71	22.39	43.96	141	0.2
Maxim um	41.7	111	1.120	331.7	8.82	2.16	2.17	271.85	94.3	30	109	525	1
Minim um	0.109	-4.9	11.4	32.97	-1.2	-	-1.33	0.4259	57.2	17	2	0.343	0
Media n	13.04	6.17	318.7	109.09	2.24	0.21	0.45	42.546	71	23	44.5	126.9	-
Std. Dev.	11.4	25.5	30	77.59	2.15	0.978	0.95	0.0771	11.1	3.73	28.67	138	0.40
Observ ation	50	50	50	50	50	50	50	50	50	50	50	50	50

Source: processed by the author

### Regression Model

In both Model 1 and Model 2, the fixed effect model was selected in the Chow test and Hausman test, while the common effect model was selected in the BP-LM test. However, according to Nachrowi & Usman (2006) and Hsiao (2022), econometricians have mathematically proven that when panel data has a time period (T) greater than the number of individuals (N), the fixed effect model is recommended. Conversely, when the time period (T) is smaller than the number

of individuals (N), the random effect model is recommended. Based on this expert opinion, this research will employ the random effect model given that the time period (T=5) is smaller than the number of individuals (N=10).

### Classical Assumption Tests

After obtaining the best panel data regression model estimation, the next step is conducting classical assumption tests. These tests aim to ensure the model meets BLUE (Best Linear Unbiased Estimate) assumptions or is unbiased (Gujarati, 2004). Classical assumption tests generally include normality, multicollinearity, heteroscedasticity, and autocorrelation tests.

Based on test results, both Model 1 and Model 2 have Prob>chi2 values exceeding the significance level  $\alpha$  (0.05), thus H0 is not rejected. Therefore, it can be concluded that in this study, the data follows or approaches a normal distribution. Multicollinearity test results indicate correlation between independent variables exceeding 0.90. The highest correlation occurs between corruption control and political stability variables at 0.9088. Thus, multicollinearity issues are present in this research. However, as this study uses panel data, multicollinearity concerns can be disregarded since combining cross-section and time series data is one rule of thumb (Gujarati, 2004).

Testing reveals heteroscedasticity symptoms in the model. However, since this research employs random effect model generalized least square (GLS) regression, which accounts for heterogeneity between individuals or analysis units in independent variables by incorporating random effects, the estimator maintains its unbiased and consistent properties while addressing heteroscedasticity issues.

Testing shows no autocorrelation symptoms in Model 1 but present in Model 2. However, according to Basuki & Parwoto (2016), autocorrelation testing isn't necessary for non-time series data, including panel and cross-section data. This view is supported by Ajija et al. (2011), who state that panel data has certain advantages making classical autocorrelation assumption testing unnecessary. Therefore, this research assumes no autocorrelation between residuals.

### Coefficient of Determination Analysis

The coefficient of determination value is observed by regressing independent and intervening variables against the dependent variable.

Table 2 Regression Test Results

Variable	Coefficient	z-Statistic	Prob	Mark
LnSIZE	-1.9314	-2.28	0.0110	*
OPEN	-0.0037	-1.89	0.0295	*
INF	0.1040	1.50	0.0665	
LnDEBT	-0.6685	-2.50	0.0060	**
POL	-0.3130	-0.73	0.2330	
COR	-0.4440	-0.87	0.1925	
RATE	0.1508	3.17	0.0010	***
TREATY	0.0509	4.49	0.0000	***
LnPOP	2.3632	3.43	0.0005	***
HDI	0.2551	3.65	0.0000	***
COV	-0.1807	-0.86	0.1960	
FDI	0.1013	3.14	0.0010	***
_cons	4.4742	0.79	0.2135	
<i>R-Squared</i>	0.9854			
<i>Adjusted R-Squared</i>	0.8689			
Wald chi2	245.17			
Prob > chi2	0.0000			

Source: processed by the author

Based on the table above, the Adjusted R-Squared value is 0.8689. This indicates that the variables FDI, market size, trade openness, inflation rate, political stability, corruption control, population, human capital, tax treaties, corporate income tax rate, government debt, and COVID-19 used in this research model can explain 86.89% of the variation in the dependent variable corporate income tax revenue. The remaining 13.11% is explained by other factors outside the research model.

Based on regression testing using the random effect model, the formed equation can be written as follows:

$$\text{CITR}_{it} = 8.7638 - 2.2292\text{SIZE}_{it} - 0.4560\text{OPEN}_{it} + 0.1187\text{INF}_{it} - 0.0186\text{DEBT}_{it} - 0.1873\text{POL}_{it} - 0.1376\text{COR}_{it} + 0.1145\text{RATE}_{it} + 0.0480\text{TREATY}_{it} + 1.9884\text{POP}_{it} + 0.2122\text{HDI}_{it} - 0.1300\text{COV}_{it} + 0.0814\text{FDI}_{it}$$

Table 3 Research Results

Variable	Coefficient	Prob.	$\alpha$	Interpretation	Information
LnSIZE	-1.9314	0.0110	0.05	Negative effect	Hypothesis rejected
OPEN	-0.0037	0.0295	0.05	Negative effect	Hypothesis rejected
INF	0.1040	0.0665	0.05	No effect	Hypothesis rejected
LnDEBT	-0.6685	0.0060	0.05	Negative effect	Hypothesis accepted
POL	-0.3130	0.2330	0.05	No effect	Hypothesis rejected
COR	-0.4440	0.1925	0.05	No effect	Hypothesis rejected
RATE	0.1508	0.0010	0.05	Positive effect	Hypothesis rejected
TREATY	0.0509	0.0000	0.05	Positive effect	Hypothesis accepted
LnPOP	2.3632	0.0005	0.05	Positive effect	Hypothesis accepted
HDI	0.2551	0.0000	0.05	Positive effect	Hypothesis accepted
COV	-0.1807	0.1960	0.05	No effect	Hypothesis rejected
FDI	0.1013	0.0010	0.05	Positive effect	Hypothesis accepted

Source: processed by the author

### Impact of Market Size on Corporate Income Tax Revenue

Based on hypothesis testing, market size, using natural logarithm of GDP as a proxy, shows a negative and significant relationship with corporate income tax revenue. It's important to note that the generally accepted view is that market size positively correlates with corporate tax revenue, where larger economies typically generate higher tax revenues (Fenochietto & Pessino, 2013; Castro & Camarillo, 2014).

However, several arguments can explain how large market size might negatively affect corporate tax revenue performance. Market size can influence tax competition between countries, as larger markets tend to attract more foreign investment and have greater bargaining power to lower their corporate tax rates, ultimately sacrificing corporate tax revenue (Hines, 1999). Additionally, market size can affect the tax elasticity of corporate income tax, as larger markets may be more responsive to corporate behavior regarding tax rate changes, such as relocation or investment decision modifications (de Mooij & Ederveen, 2008).

### Impact of Trade Openness on Corporate Income Tax Revenue

According to hypothesis testing results, trade openness shows a negative and significant relationship with corporate tax revenue. This contradicts most previous research showing positive and significant relationships (Castro & Camarillo, 2014; Fenochietto & Pessino, 2013; Gupta, 2007; Piancastelli & Thirlwall, 2019). However, one study found similar results, showing a significant negative relationship between the KOF Globalization Index and FDI inflows on corporate income tax rates, subsequently affecting corporate tax revenue (Hamer, 2019).

Ho et al. (2023) suggest that increased trade openness can lead to tax base erosion for domestic companies. When countries reduce import tariffs and barriers, it becomes easier for multinational companies to shift profits to lower-tax countries or engage in transfer pricing practices to minimize their tax obligations in higher-tax countries. This can result in reduced corporate tax revenue for countries with higher tax rates (Ho et al., 2023).

Furthermore, trade openness exposes domestic companies to greater competition from foreign firms. Consequently, domestic companies may face pressure to lower prices to remain competitive, potentially leading to lower profit margins. Lower profits ultimately result in reduced taxable income and subsequently lower corporate tax revenue (Arezki et al., 2021).

### Impact of Inflation on Corporate Income Tax Revenue

Referring to hypothesis testing results, inflation shows a positive but insignificant relationship with corporate tax revenue. This differs from previous research indicating a negative and significant relationship (Fenochietto & Pessino, 2013). Several perspectives might explain these results. For instance, Frenkel & Razin (1987) suggest that inflation leads to higher nominal profits. Inflation typically results in increased nominal corporate profits. This means that even if real corporate profits remain constant, nominal profits will rise. Since corporate income tax is based on nominal profits, higher inflation can generate increased tax revenue for the government (Frenkel & Razin, 1987).

Additionally, inflation can lead to increased consumer spending as people may prefer to spend now rather than hold cash, which loses value due to inflation (Friedman, 1957). This increased consumption can result in higher business sales, generating increased corporate tax revenue alongside rising profits (Friedman, 1957).

### **Impact of Government Debt on Corporate Income Tax Revenue**

Hypothesis testing reveals that government debt has a negative and significant relationship with corporate tax revenue. This aligns with previous research by Andrejovská & Puliková (2018). Excessive government debt can negatively affect corporate tax revenue performance through several perspectives. According to Gurdal et al. (2021), high government debt levels can lead to increased interest payments, which in turn reduces available fiscal space for public spending and investment in infrastructure, education, and other growth-driving sectors. Reduced public investment can lower overall economic growth and subsequently impact corporate profits and the tax base. When economic growth slows, corporate tax revenue may decline due to lower taxable profits.

Furthermore, Ohrn (2018) suggests that high government debt can create a crowding-out effect on private investment. As governments accumulate debt and compete for funds in financial markets, this can raise interest rates. Higher interest rates make borrowing more expensive for businesses, leading to reduced private investment. The crowding-out effect occurs when governments borrow large amounts at competitive rates, causing investors to redirect investments to government lending due to lower risk compared to private investment, ultimately displacing private investment and leading to slower business expansion and decreased productivity. With reduced private investment, corporate profitability may decline, resulting in lower corporate tax revenue for the government.

### **Impact of Political Stability on Corporate Income Tax Revenue**

Referring to hypothesis testing results, political stability in this study shows a negative relationship with corporate tax revenue. However, the influence of political stability is not significant when viewed from its probability value. This differs from previous research that considered political stability to significantly influence corporate tax revenue performance (Alesina & Perotti, 1993; Besley & Persson, 2009).

The negative impact of political stability on tax revenue might be explained through several perspectives, such as reluctance to implement economic and tax regulation reforms, and the emergence of corruption and inefficiency. In a stable political environment, there may be no urgency for governments to implement tax reforms to fix tax regulation loopholes and implement more efficient tax policies, thus impacting corporate tax revenue (Elbahnasawy, 2020). Additionally, in some stable political environments, corruption and rent-seeking behavior among politicians and bureaucrats may increase (Estrada et al., 2012). This can lead to inefficiencies in the public sector and resource misallocation, affecting economic productivity and corporate profitability, thereby reducing the tax base (Estrada et al., 2012).

### **Impact of Corruption Control on Corporate Income Tax Revenue**

Based on hypothesis testing results, corruption control in this study shows a negative relationship with corporate tax revenue. This means that better corruption control efforts potentially reduce corporate tax revenue. However, the influence of political stability in this study is not significant when viewed from its probability value. This differs from the theories and previous research that formed the basis of this study's hypothesis (Ajaz & Ahmad, 2010; Imam & Jacobs, 2007). This difference might be explained by the findings of Cerqueti & Coppier (2009), who explored tax revenue in an evenly distributed fiscal corruption regime through a static theoretical framework. Cerqueti & Coppier (2009) argue that the correlation between tax revenue and tax rates depends on the shame effect or the embarrassment effect of uncovering a corrupt transaction as follows:

*“...if the State wants to maximize tax revenues in a “low shame” country, it has to set a tax rate greater than a threshold value, because up to this value, the tax revenues increase – as the tax rate increases – at an increasing rate; in a “high shame” country, the State should set a tax rate equal to a threshold value because this value is a global maximum of tax revenues with respect to tax rate. In both cases, there is fiscal corruption in the economy.”*

According to Cerqueti & Coppier (2009), in countries where most citizens "normalize" corrupt actions ("low shame" countries), the government must set tax rates higher than the threshold value to maximize tax revenue, because up to this value, tax revenue will increase alongside tax rate increases. Meanwhile, for "high shame" countries, the state must set tax rates at the threshold value because this represents the global maximum tax revenue in relation to tax rates. In both cases, fiscal corruption exists in the economy (Cerqueti & Coppier, 2009). Another similar study by Fjeldstad & Tungodden (2003) offers a perspective on the paradoxical relationship between corrupt behavior among tax authorities and tax revenue performance as follows:

*“By strengthening the bargaining power of corrupt tax officers, it is argued that tax evasion may be reduced and tax revenues increased. But does such an intriguing paradox justify policies that stimulate corruption? Our*



*answer is no, and this note puts forward three arguments to support our view. First, while an increase in corruption may raise revenues in the short run, in general, the opposite will be the case in the longer run. Second, the instrumental value of reducing corruption goes far beyond its effects on tax evasion and tax revenues. Accepting corruption as a policy strategy to increase tax revenues may undermine values of democracy and good governance. Third, eliminating corruption should be considered an end in itself. Thus, contrary to recent suggestions on incentive reforms in tax administration, the reasonable starting point for policy debates in this area should still be that an increase in fiscal corruption is not an appropriate instrument for raising tax revenues. Sustained development cannot occur in an institutional framework that fosters corruption and extra-legal tax enforcement."*

As explained by Fjeldstad & Tungodden (2003), an initial increase in corruption levels might temporarily increase revenue, but this is generally unsustainable in the long term. The instrumental value of reducing corruption extends beyond its impact on tax evasion and overall revenue. Accepting corruption as a policy strategy can undermine democratic values and good governance. Eliminating corruption should be considered a primary objective alongside efforts to increase tax revenue, as sustainable development cannot occur within an institutional framework that encourages corruption and extra-legal tax enforcement (Fjeldstad & Tungodden, 2003).

### **Impact of Corporate Income Tax Rate on Corporate Tax Revenue**

Referring to hypothesis testing results, the corporate income tax rate shows a positive and significant relationship with corporate tax revenue. This means that an increase in corporate tax rates will increase corporate tax revenue. This differs from previous research showing that in OECD member countries, decreasing corporate tax rates actually increased corporate tax revenue nominally (Fuest et al., 2020). However, that study noted that tax rate reductions were offset by significant increases in pre-tax corporate profits. Profit increases were broken down into changes in EBITDA, depreciation, and financial gains, which contributed almost equally to tax base expansion.

When referring to Stiglitz's optimal tax theory conceptualization, which can be illustrated with the Laffer curve to show the concept of taxable income elasticity, where taxable income changes according to tax rate changes, governments must set appropriate rates to achieve maximum tax revenue with minimal distortion effects on economic output.

### **Impact of Tax Treaties on Corporate Tax Revenue**

Tax treaties are agreements between two or more countries to avoid double taxation and prevent tax evasion on cross-border income and activities (IMF, 2019). According to hypothesis testing results, tax treaties show a positive and significant relationship with corporate tax revenue, consistent with previous research.

A tax treaty can positively influence corporate tax revenue by reducing the tax burden on foreign investors and corporations through double taxation avoidance, which can encourage more foreign direct investment, trade, and economic growth, potentially expanding the tax base and increasing taxable profits (IMF, 2019).

Additionally, tax treaties can prevent tax avoidance and evasion by multinational companies, reducing profit shifting, base erosion, and aggressive tax planning, which can enhance tax collection and reduce revenue losses (Karnosh, 2021) through increased tax cooperation and information exchange between tax authorities, improving tax administration, compliance, and enforcement (IMF, 2019).

### **Impact of Population on Corporate Tax Revenue**

Based on hypothesis testing results, population shows a positive and significant relationship with corporate tax revenue. Larger populations often lead to increased economic activity and consumer demand. This, in turn, can drive local business sector growth, attracting more companies to operate in the area. As the number of businesses increases, the potential tax base for corporate income tax also expands (Clausing, 2020).

A larger population means a larger workforce available to businesses. Companies can leverage more potential employees with diverse skills, which can increase productivity and innovation (Goss & Liu, 2018). As businesses grow and expand, they contribute more to the local economy and generate higher corporate income tax revenue (Gale et al., 2015).

### **Impact of Human Resources on Corporate Tax Revenue**

The Human Development Index (HDI) is a measure of economic development and welfare that evaluates countries in terms of life expectancy, education, and citizens' living standards (UNDP, 2021). According to hypothesis testing results, human resource quality, using the human development index as a proxy, shows a positive and significant relationship with corporate tax revenue.

One possible explanation for HDI's positive effect on corporate tax revenue is that higher HDI implies higher levels of human resources, productivity, and innovation (Hendarmin & Kartika, 2019), which can increase corporate profitability and tax base. Another possible reason is that higher HDI implies better public services, infrastructure, and governance (Belmonte da Silva & Fernandez Jardón, 2021; Hendarmin & Kartika, 2019), which can attract more foreign direct investment and multinational companies to operate in the country.

#### **Impact of Covid-19 on Corporate Tax Revenue**

Referring to hypothesis testing results, Covid-19's impact is not significant but shows a negative relationship with corporate tax revenue. This aligns with research by Makananisa (2020) and Țibulcă (2022). Social restriction policies, both lockdowns and other forms of restrictions implemented by governments during Covid-19, created economic uncertainty (Altig et al., 2020; Baker et al., 2020). Additionally, COVID-19-related uncertainty created demand and supply shocks and disrupted international trade supply chains (Eichenbaum et al., 2021; Guerrieri et al., 2020).

The IMF notes that the pandemic caused significant declines in tax revenue in most countries in 2020, both directly due to economic slowdown and indirectly through tax policies and administrative measures taken in government response (IMF, 2020). The OECD also states that slowdowns in economic activity and employment would reduce or delay income tax collection and social security payments, resulting in lower corporate income tax (OECD, 2020e).

#### **Impact of FDI on Corporate Tax Revenue**

Foreign Direct Investment (FDI) is a crucial source of capital and an essential instrument in international trade and a country's global economy. Based on hypothesis testing results, FDI shows a positive and significant relationship with corporate tax revenue. These findings support previous research conducted by Aslam (2015) in Sri Lanka and Mahmood & Chaudhary (2013) in Pakistan. Both studies also stated that FDI has a significant relationship with tax revenue and positively impacts welfare. Additionally, these results align with previous research conducted in Indonesia by Pratomo (2020), concluding that FDI has a positive effect on total tax revenue.

#### **FDI's Mediating Effect on Independent Variables' Impact on Corporate Tax Revenue**

Beyond examining the direct effects of independent variables on tax revenue, this research also examines indirect effects through FDI as a mediator. From Sobel test results, government debt, political stability, and Covid-19 show significant indirect effects on corporate tax revenue. Other variables do not show significant indirect effects, with varying probability values.

#### **CONCLUSION**

Market size negatively affects corporate tax revenue, contrary to general views. This may occur because large market size can influence tax competition between countries and corporate income tax elasticity, with companies being more responsive to tax rate changes through relocation or investment decision modifications. Trade openness negatively affects corporate tax revenue, likely due to domestic corporate tax base erosion, transfer pricing, and domestic corporate rate wars triggered by increased trade openness. Government debt negatively affects corporate tax revenue, partly because increased government debt can lead to higher interest payments, reducing available fiscal space for public spending and investment in infrastructure, education, and other crucial sectors. Increased corporate tax rates enhance corporate tax revenue but decrease FDI. This FDI reduction risks lowering corporate productivity and profits, ultimately reducing corporate tax revenue. Tax treaties positively affect corporate tax revenue, meaning more tax treaties with other countries increase corporate tax revenue. Population size positively affects corporate tax revenue, indicating larger populations correlate with increased corporate tax revenue. Human resource quality, measured through the human development index, positively affects corporate tax revenue, meaning higher HDI scores correlate with higher tax revenue. Higher FDI correlates with higher corporate tax revenue.

#### **Recommendations**

Future research could expand on these findings by extending the research period and/or broadening the geographical scope. Additionally, the dependent variable could be modified, for example, by narrowing corporate tax revenue categories by industry. While FDI shows both direct and indirect effects on corporate tax revenue, previous research criticisms suggest that creating business-friendly and foreign investor-friendly climates must be balanced with good human resource development. Corporate tax rates and tax treaties show direct effects on corporate tax revenue. Regulators, both legislative and executive, should formulate appropriate regulations to optimize tax revenue, particularly corporate tax revenue. This research provides insights into market size, trade openness, inflation, government debt, political stability, corruption control, corporate tax rates, tax treaties, population, human capital, and COVID-19 in ASEAN member countries, both descriptively and through regression analysis. It aims to provide an overview of FDI development and its determinants for future investment analysis.

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