E-GOVERNMENT, POLITICAL STABILITY, AND FOREIGN DIRECT INVESTMENT IN ASEAN

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Abstract – *The growing importance of digitalization and institutional quality in the global business environment has introduced new determinants of foreign direct investment (FDI) alongside traditional economic factors. The implementation of a global minimum corporate tax has increased the relevance of non-tax incentives in attracting FDI. This study examines the impact of e-government development and political stability on FDI inflows in the Association of Southeast Asian Nations (ASEAN). Using a fixed-effects estimator on panel data from 2003 to 2020 for ten ASEAN member states, the results indicate that both e-government development and political stability have statistically significant and positive effects on FDI inflows. The findings remain robust across alternative model specifications and adjustments for heteroskedasticity and cross-sectional dependence. Expanding the analysis to a global sample of 161 countries confirms the persistent positive influence of political stability on FDI, emphasizing the critical role of stable political environments in facilitating international investment. This study contributes to the FDI literature by highlighting the importance of public sector digitalization and institutional quality in enhancing the investment attractiveness of host countries, particularly in the ASEAN region.*

Keywords: ASEAN, e-government development, foreign direct investment, political stability.

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I. INTRODUCTION

Foreign direct investment (FDI) has been a significant driver of economic development and globalization for decades [1], serving as a crucial source of capital, job creation, and technological spillover, thereby promoting host economy development [2]. Consequently, many countries strive to attract FDI by fostering favorable investment environments. The ten member states of the Association of Southeast Asian Nations (ASEAN) are no exception, having implemented various policies to enhance their FDI attractiveness.

ASEAN members' economies benefit significantly from FDI inflows [3], and the region itself holds substantial potential as a major FDI destination due to its expanding regional market and abundant labor force [2]. With its combined economies, ASEAN ranks as the fifth-largest globally [4], possessing a labor force second only to China and India [3]. Empirical studies have highlighted the positive impact of FDI on ASEAN economies. For instance, Hsiao et al. [5] identified a critical role of FDI in Singapore's GDP and a significant relationship between FDI and Thailand's GDP (1986–2004). Moudatsou et al. [6] found a causal relationship between FDI and GDP per capita in Indonesia and Thailand. In Vietnam, FDI has demonstrated a positive influence on economic growth across sixty-one provinces from 1995 to 2006 [7].

However, intensifying competition for foreign capital, compounded by the unforeseen impact of the COVID-19 pandemic, led to a 25% decline in total FDI inflows to the ASEAN region in 2020 [8]. Leading FDI recipients in the region – Singapore, Indonesia, and Vietnam – experienced declines of 21%, 22%, and 2%, respectively [9]. This underscores the continued need to research the determinants of FDI attraction in ASEAN.

Moreover, the introduction of the global minimum corporate tax necessitates a shift away from reliance on tax incentives for attracting FDI.

While prior research has extensively examined FDI determinants, consensus on specific covariates remains limited [10, 11]. In addition to established traditional economic factors, increasing attention has been directed toward the influence of information and communication technology (ICT) and institutional quality on FDI [1, 11, 12]. This study investigates two such determinants in ASEAN: political stability (an institutional factor) and e-government (an ICT-driven factor). Political stability is considered an important institutional factor positively influencing FDI inflows [13], as multinational enterprises (MNEs) prefer host countries with stable policies that ensure long-term, consistent facilitation of international investment and business operations [1]. E-government initiatives, as an application of ICT in public services, can reduce administrative burdens on international investment procedures and associated transaction and information costs, potentially enhancing host country FDI attractiveness from the perspective of foreign investors [14–16].

Political stability is measured using the World Bank's Worldwide Governance Indicators (WGI) project [17], specifically the indicator of political stability and absence of violence/terrorism. This indicator is a widely used and reliable measure of political steadiness. Based on this indicator, Brunei Darussalam and Singapore exhibited the highest levels of political stability in ASEAN during the decade from 2011 to 2020, while Myanmar, the Philippines, and Thailand experienced the least stability. The level of e-government development is measured by the e-government development index (EGDI). This survey-based index has been published by the United Nations (UN) Department of Economic and Social Affairs since 2003. The data of EGDI are available biennially from 2008. The index is a weighted average of three components: the online service index (OSI), the telecommunication infrastructure index (TII), and the human capital index (HCI).

The index values range from 0 to 1, referring to the readiness and capacity of countries to deliver public e-services. EGDI is equal to 1 when the country is fully ready and capable of using ICTs to provide public services to its citizens and all other stakeholders.
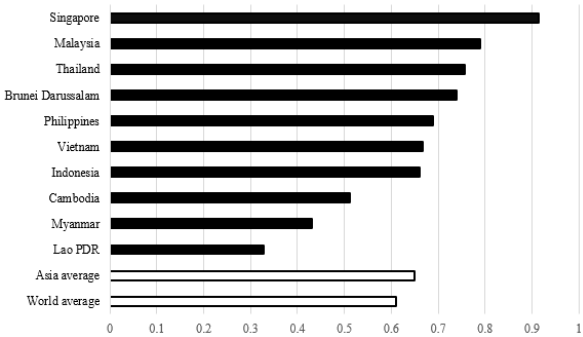

Fig. 1: E-government development in ASEAN by country in 2020

Source: Author's processing based on the UN e-government survey

According to the EGDI Report 2020, Asia ranks second globally in EGDI, surpassed only by Europe. As shown in Figure 1, most ASEAN countries have EGDI values above the Asian and global averages. Lao PDR, Myanmar, and Cambodia are positioned in the lower half of the world ranking. Thailand, Malaysia, and Singapore, with scores exceeding 0.75, are classified as very high EGDI countries. Singapore also holds the 11th highest global EGDI ranking. Indonesia, Vietnam, the Philippines, and Brunei are categorized as high EGDI countries [18]. Notably, the top three FDI recipients in the region–Singapore, Indonesia, and Vietnam–fall within the high or very high EGDI categories. This suggests that ASEAN countries possess significant potential to further develop e-government and thereby attract increased FDI inflows.

This study investigates the effects of political stability and e-government development on FDI inflows in ASEAN, using the WGI indicator and the UN's EGDI. The remainder of this paper is structured as follows: Section II reviews the relevant literature on FDI determinants and the

theoretical mechanisms through which political stability and e-government may influence FDI inflows. Section III describes the empirical specification, analytical strategy, and data. Section IV presents and discusses the empirical results, and Section V concludes with key findings and implications.

II.   LITERATURE REVIEW

Dunning's eclectic paradigm provides a seminal theoretical framework for understanding MNEs' FDI decisions and remains widely applied in empirical FDI research [19–21]. This theory posits three key determinants of FDI: ownership, location, and internalization advantages. Location advantages, representing home country-specific characteristics that can facilitate MNEs' strategies, are crucial. Host countries possessing desirable location advantages are more attractive to FDI, forming the basis for identifying economic determinants of FDI [22].

Recent FDI research has broadened its focus beyond traditional economic determinants to include institutional factors. Recognizing the growing importance of institutional quality, Dunning et al. extended the original eclectic paradigm to incorporate institution-based factors [23, 12]. Among these institutional aspects, political stability is particularly salient, as political risks are a primary concern for foreign investors [3]. For instance, Teeramungcalanon et al. [1], examining the impact of political factors on FDI in ASEAN+3 countries (ASEAN member states plus Japan, China, and Korea), found a significant and consistent role for political stability. However, their estimation method controlled only for time-invariant heterogeneity, neglecting time-specific effects.

E-government, or digital government, refers to the application of information and communication technology (ICT) in online public service provision [24]. E-government can influence FDI inflows through several channels. First, it can reduce transaction costs and time associated with international investment administration in the host country [14, 16]. Second, by enhanc-

ing information accessibility regarding the investment climate, e-government reduces the need for foreign investors to conduct extensive market research. Finally, e-government can play a significant role in combating corruption, a factor known to negatively influence FDI [25]. E-government initiatives can thus mitigate this deterrent effect [26].

While the positive relationship between e-government and FDI is intuitively appealing, empirical evidence remains limited. For instance, Al-Sadiq [16] explored the role of e-government in attracting FDI across 178 host countries using aggregate country-level data in an IMF working paper. Kim et al. [26] investigated the moderating role of corruption in the e-government–FDI relationship. However, both studies focused solely on country-fixed effects, neglecting the potential influence of time-specific external shocks and cross-sectional dependence in their panel data. Additionally, neither study addressed the e-government–FDI relationship within the ASEAN context, thus leaving a significant gap in the literature.

This study seeks to address these limitations by examining the effects of political stability and e-government development on FDI inflows in ASEAN countries. The following section presents the analytical methodology employed in this investigation.

III.   RESEARCH METHODS

A. Empirical models

To examine the effects of political stability and e-government development on inward FDI flows in ASEAN, the general equation is defined as Equation (1).

$$lnFDI_{i,t} = \beta_0 + \beta_1 EGOV_{i,t} + \beta_2 POSB_{i,t} \quad (1)$$
$$+ x'_{i,t}\beta + \varepsilon_{i,t}$$

In Equation (1), the subscript i denotes a country within ASEAN, while the subscript t refers to a specific year within the study period. The dependent variable, denoted as $lnFDI_{i,t}$, represents the natural logarithm of FDI inflows to host

country i in year t. The two explanatory variables of interest, $EGOV_{i,t}$ and $POSB_{i,t}$, represent e-government development and political stability in country i during year t, respectively. $x'_{i,t}$ is a vector of control variables included to address potential omitted confounders. The coefficients β represent the estimated effects of the independent variables. The primary interest lies in β_1 and β_2, which represent the ceteris paribus effects of e-government and political stability on the dependent variable. A statistically significant estimate of β_1 indicates that e-government development influences FDI inflows. Similarly, the effect of political stability is inferred from the estimate of β_2. The error term $\varepsilon_{i,t}$ can be decomposed into the time-invariant country-specific effect μ_i, the time-specific effect λ_t, and the idiosyncratic error term $v_{i,t}$.

The existing literature suggests that there are variables that may influence FDI while not necessarily being independent of e-government and political stability. Therefore, it is essential to control for these variables to isolate the effects of e-government and political stability on FDI; otherwise, the estimates may be biased. Drawing on empirical studies on FDI determinants, the baseline equation includes control variables such as gross domestic product per capita (GDP per capita), GDP growth rate, and export growth rate.

Market size and the market potential of the host country are crucial factors in attracting FDI [16]. Teeramungcalanon et al. [1] included GDP growth rate in their study of political factors affecting FDI in ASEAN countries from 1996 to 2018, finding a consistent and significant impact of GDP growth on FDI. Chiappini et al. [27] demonstrated that the similarity of GDP per capita between Japan and host countries significantly attracted outward FDI between 2005 and 2017. Export growth can also attract more FDI, as foreign investors gain insight into the market structure of host countries, which may reduce transaction costs [5]. Accordingly, GDP per capita, GDP growth rate, and export growth rate are included as control variables.

The detailed model for the standard estimations is specified as Equation (2).

$$lnFDI_{i,t} = \beta_0 + \beta_1 EGDI_{i,t} + \beta_2 POSB_{i,t} \\ + \beta_3 lnGDPC_{i,t} + \beta_4 GDPG_{i,t} + \beta_5 EXGR_{i,t} + \varepsilon_{i,t} \tag{2}$$

In Equation (2), $lnGDPC_{i,t}$, $GDPG_{i,t}$, and $EXGR_{i,t}$ represent the natural logarithms of GDP per capita, GDP growth rate, and export growth rate for country i in year t, respectively.

To account for unobserved country-specific factors and external shocks, a two-way error component approach is employed [28]. This approach includes both time-invariant country-fixed effects and year-specific effects. As a result, Equation (2) becomes Equation (3).

$$lnFDI_{i,t} = \beta_0 + \beta_1 EGDI_{i,t} + \beta_2 POSB_{i,t} + \beta_3 lnGDPC_{i,t} \\ + \beta_4 GDPG_{i,t} + \beta_5 EXGR_{i,t} + \mu_i + \lambda_t + v_{i,t} \tag{3}$$

In addition to the baseline regression, the robustness of the estimations is tested by modifying the model specification. Specifically, the analysis incorporates two supplementary factors: trade openness and inflation. Trade openness captures the degree to which a host economy participates in international trade and facilitates intra-MNE trade, which is hypothesized to influence inward FDI. Asongu et al. [29] have underscored the significant role of trade openness in attracting FDI to BRICS and MINT countries. Inflation, by contrast, serves as an indicator of macroeconomic instability [16]. High inflation rates are commonly associated with increased uncertainty and economic volatility, potentially deterring foreign investors. To evaluate robustness, these variables are introduced into the baseline equation individually and collectively. If the estimation results remain consistent despite these adjustments to the model specification, the robustness of the findings will be confirmed.

The two primary independent variables, e-government and political stability, are hypothesized to have positive impacts on FDI inflows. Among the control variables suggested by the literature, the coefficients for GDP per capita, GDP growth, and export growth are expected to be positive. In contrast, the inflation rate is anticipated to have a negative effect on FDI

inflows. A summary of the independent variable notations and their expected signs is presented in Table 1.

Table 1: Independent variables information

Variables	Descriptions	Expected signs	References
Standard models			
EGOV	E-government development level	+	[16, 26]
POSB	Political stability	+	[1]
GDPC	GDP per capita	+	[27]
GDPG	GDP growth rate	+	[1, 16]
EXGR	Export growth rate	+	[5]
Extended models			
OPEN	Trade openness	+	[16, 29]
INFL	Inflation	–	[9, 16]

Source: Author's processing

B. Data

The data on e-government is sourced from the United Nations E-Government Survey. As this dataset is only available for 2003, 2004, 2005, and biennially from 2008 onward, the panel data covering ten ASEAN countries from 2003 to 2020 is unbalanced. Political stability data is derived from the WGI, while the remaining variables are obtained from the World Bank's World Development Indicators (WB WDI). Table 2 provides a summary of the variable statistics.

Table 2: Descriptive statistics

	Mean	Std. Dev.	Min	Max
Standard models				
FDI (log)	21.838	1.859	16.644	25.120
EGOV	0.502	0.181	0.187	0.915
POSB	-0.125	0.922	-1.909	1.477
GDPC (log)	8.425	1.312	6.360	11.023
GDPG	5.073	3.690	-9.518	14.520
EXGR	7.477	8.309	-16.144	28.097
Extended models				
OPEN	133.810	93.408	11.855	437.327
INFL	4.124	4.194	-1.139	24.097

Source: Author's calculation

Both FDI and GDP per capita are logarithmically transformed to reduce skewness and mitigate heteroskedasticity [30]. However, as some control variables may take negative or zero values, log-transformation is not applied to them to avoid generating missing values. EGOV, measured by the E-Government Development Index (EGDI), ranges from 0 to 1, while POSB (an

indicator from the WGI) typically ranges from – 2.5 to 2.5. Higher POSB values indicate greater political stability, with a value of 2.5 representing the highest level of political stability.

Table 3: Correlation matrix

	FDI	EGOV	POSB	GDPC	GDPG	EXGR	OPEN	INFL
FDI	1.000							
EGOV	0.658	1.000						
POSB	0.123	0.443	1.000					
GDPC	0.366	0.793	0.708	1.000				
GDPG	-0.054	-0.412	-0.227	-0.418	1.000			
EXGR	-0.003	-0.290	-0.121	-0.337	0.724	1.000		
OPEN	0.481	0.651	0.618	0.634	0.034	0.131	1.000	
INFL	-0.189	-0.435	-0.311	-0.490	0.271	0.263	-0.197	1.000

Source: Author's calculation

Table 3 presents the pairwise correlations of the variables included in the baseline equation, highlighting positive linear relationships between EGOV and POSB with the dependent variable. While certain independent variables exhibit strong linear correlations with one another, the specification test discussed in Section IV does not reveal any significant multicollinearity concerns.

C. Analysis strategy

Consequently, static panel data approaches, which include pooled ordinary least squares (POLS), random effects (RE), and fixed effects (FE), are employed to examine the effects of e-government and political stability on FDI in ASEAN. To account for potential external shocks specific to certain years that may influence all selected countries, year dummies are included in all estimation models. This ensures that external shocks (λ_t) do not bias the empirical results.

The selection among POLS, RE, and FE models depends on the presence of time-invariant country-specific heterogeneity (μ_i). If country-fixed effects are absent (($\mu_i = 0$), the POLS model provides unbiased and efficient estimates. However, in studies of FDI determinants, country-specific effects influencing both FDI flows and location advantages are typically present ((μ_i # 0). Since the POLS model cannot account for time-invariant unobserved heterogeneity, its estimates would be biased in these circumstances.

Therefore, RE or FE models are more appropriate. Both models account for time-invariant country-specific heterogeneity, albeit through different methods. The RE model employs a quasi-demeaned approach to remove country-fixed effects, while the FE model removes them by subtracting the mean values of each variable [31]. The RE model enables the estimation of time-invariant variables, whereas the FE model eliminates these variables, making their estimation impossible. However, the RE model requires an additional assumption that country-fixed effects are randomly distributed and uncorrelated with explanatory variables, which may limit its applicability.

A set of specification tests is conducted to identify the most appropriate model. The Breusch–Pagan Lagrange Multiplier (BPLM) test compares POLS with the RE model [30]. If the null hypothesis is not rejected, the POLS model is preferred; otherwise, the RE model is more suitable. The poolability test compares POLS and FE models by testing the null hypothesis that all country-specific intercepts are jointly equal to zero. Failing to reject the null hypothesis supports the POLS model, while rejection favors the FE model [31]. Finally, the Hausman specification test distinguishes between RE and FE models [32]. Acceptance of the null hypothesis indicates that the RE model is more efficient and consistent, whereas rejection supports the use of the FE model.

Additional diagnostic tests are performed to address potential issues of heteroskedasticity, serial correlation, and cross-sectional dependence (CD), as these issues can invalidate standard errors and lead to incorrect conclusions about coefficient significance. The Breusch-Pagan and Cook-Weisberg (BPCW) test is used to detect heteroskedasticity [33, 34], while the Wooldridge test examines first-order serial correlation [35]. CD is evaluated using Pesaran's CD test [36]. The diagnostic results indicate that the panel data is homoscedastic and free from autocorrelation but shows CD among some independent variables. As a result, the baseline model is re-estimated

using Driscoll and Kraay standard errors, which are robust to CD [37].

Given the Hausman test results (presented in Section IV) favoring the fixed effects (FE) model, subsequent estimations employ this model with robust standard errors and Driscoll-Kraay standard errors. These estimations assess whether the effects of e-government and political stability on FDI in ASEAN diverge from global trends. Such comparative analyses can offer valuable insights into the specificities of the ASEAN context relative to the global landscape, as well as the distinct roles of these two key variables.

Furthermore, to examine the specific effects of e-government, the analysis disaggregates the composite e-government index into its three constituent components. This disaggregation allows for more targeted policy implications for ASEAN countries, providing guidance on specific e-government strategies to maximize their impact on FDI attraction. The following section presents and discusses the full set of estimation results.

IV.   EMPIRICAL RESULTS

A. Standard estimations

Initial empirical analyses estimate Equation (2) using POLS, RE, and FE estimators. The results are presented in Columns (1)–(3) of Table 4. While the POLS model ignores the panel structure of the data, the RE and FE models account for time-invariant country-specific characteristics, thereby addressing potential heterogeneity.

The results reveal variation in the coefficients and significance of the e-government and political stability variables across the models. Specifically, the effect of e-government development on ASEAN's FDI inflows is statistically significant in the POLS and RE models but not in the FE model. In contrast, political stability exhibits a significant positive effect in the RE and FE models. Notably, the coefficient of the e-government variable is substantially higher in the POLS model compared to the RE and FE models. This discrepancy may result from the POLS

Table 4: Standard regressions

VARIABLES	Models		
	POLS (1)	RE (2)	FE (3)
EGOV	10.46***	3.937***	1.734
	(1.318)	(1.290)	(1.050)
POSB	−0.134	0.624**	0.577***
	(0.224)	(0.259)	(0.212)
GDPC (log)	−0.422*	1.022***	3.016***
	(0.235)	(0.373)	(0.406)
GDPG	0.0993*	0.0400	0.0293
	(0.0566)	(0.0359)	(0.0278)
EXGR	0.00906	0.00128	0.0159
	(0.0244)	(0.0150)	(0.0118)
Constant	19.56***	11.19***	−4.639
	(1.658)	(2.904)	(3.204)
BPLM test (H_0: POLS > RE)		54.07***	
Poolability test (H_0: POLS > FE)			40.11***
Hausman test (H_0: RE > FE)			37.05***
Test of overall fit:			
F-test	19.85***		31.73***
Wald test		66.89***	
Observations	90	90	90

*Note: Standard errors in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$*
Source: Author's calculation

model treating all observations as cross-sectional data, disregarding unobserved heterogeneity.

Control variables, such as GDP per capita, exhibit mixed results. While GDP per capita has a significant negative coefficient at the 10% level in the POLS model (Column 1), this result is counterintuitive and likely influenced by unaccounted-for time-specific external shocks. Other control variables, such as GDP growth and export growth rates, are generally insignificant across all models. Specification tests presented in Table 4 highlight the appropriateness of the FE model over the POLS and RE models. Both the BPLM and poolability tests reject their null hypotheses at the 1% significance level, suggesting that RE and FE estimators perform better than the OLS estimator. Additionally, the statistically significant Hausman test further favors the FE model over the RE model.

Given potential concerns regarding heteroskedasticity, autocorrelation, and cross-sectional dependence, relevant diagnostic tests are performed (Table 5). The reliability of standard errors depends on the absence of these issues; their presence necessitates the use of

alternative standard error estimations.

Table 5: Heteroskedasticity, autocorrelation, and cross-sectional dependence tests

Variables	CD-test	p-value	average joint	mean ρ	mean abs(ρ)
EGOV	15.109	0	10	0.71	0.71
POSB	0.939	0.348	10	0.04	0.4
GDPC (log)	12.802	0	10	0.6	0.98
GDPG	13.087	0	10	0.62	0.65
EXGR	5.166	0	8.6	0.25	0.51
BPCW test (H_0: Homoskedasticity)		0.77 (p-value = 0.3813)			
Wooldridge test (H_0: no 1st-order autocorrelation)		3.801 (p-value = 0.0922)			

Source: Author's calculation

The BPCW test fails to reject the null hypothesis of homoskedasticity. The Wooldridge test rejects the null hypothesis of no first-order autocorrelation at the 10% level, but not at the 5% level. Pesaran's CD test indicates CD for most variables, except political stability. In light of this, the application of Driscoll-Kraay standard errors is necessary.

Equation (3), incorporating controls for both time-invariant country-specific and year-specific effects, is estimated using RE and FE. The results are presented in Table 6, considering ASEAN (Columns 1–3), the rest of the world excluding ASEAN (Column 4), and the full sample of 161 countries (Column 5).

Column (1) presents RE estimates for ASEAN, while Column (2) presents FE estimates. After including year dummies, e-government exhibits a statistically significant positive effect in both models. However, political stability is only significant in the FE model. The Hausman test again rejects the null hypothesis, supporting the FE model. Column (3) presents FE estimates with Driscoll-Kraay standard errors for ASEAN. As this correction affects only standard errors, the estimated coefficients are identical to those in Column (2). With the corrected standard errors, both e-government and political stability are statistically significant (at the 5% and 1% levels, respectively). These results indicate that a 0.01 increase in the host country's EGDI is associated with an approximately 3.09% increase

Table 6: Estimations with controls for country and time fixed effects

VARIABLES	ASEAN			Rest of the world	World
	RE (1)	FE (2)	FE (3)	FE (4)	FE (5)
EGDI	10.22***	3.086**	3.086**	-0.0599	-0.0628
	(1.401)	(1.400)	(1.353)	(0.428)	(0.430)
POSB	-0.212	0.637***	0.637***	0.246***	0.279***
	(0.207)	(0.185)	(0.137)	(0.0754)	(0.0683)
GDPC (log)	-0.354	2.142***	2.142***	0.679	0.880*
	(0.251)	(0.512)	(0.232)	(0.452)	(0.394)
GDPG	0.0541	0.00525	0.00525	0.0259**	0.0254**
	(0.0623)	(0.0299)	(0.0155)	(0.0105)	(0.00959)
EXGR	0.0454*	0.0279**	0.0279**	-0.00113	-0.000805
	(0.0240)	(0.0110)	(0.0107)	(0.00160)	(0.00154)
Constant	18.01***	1.652	1.652	14.07***	12.46***
	(1.847)	(4.230)	(2.179)	(3.738)	(3.293)
Hausman test	63.43***				
Driscoll-Kraay SE	No	No	YES	YES	YES
F-test of overall fit		19.08***	10192.07 ***	50056.46 ***	94710.12 ***
Observations	90	90	90	1,293	1,383
No. of countries	10	10	10	151	161

Note: Year dummies control for time-specific effects; RE/FE estimators address country fixed effects; Standard errors in parentheses; *** p < 0.01, ** p < 0.05, * p < 0.1
Source: Author's calculation

in FDI inflows, ceteris paribus. Similarly, a 0.1 increase in political stability is associated with an approximately 6.4% increase in inward FDI flows, ceteris paribus.

Column (4) presents estimates for the 151 countries excluding ASEAN, while Column (5) presents estimates for the full sample of 161 countries. In both cases, only political stability exhibits statistical significance, while e-government is insignificant. This finding contrasts with Al-Sadiq [16], who found a significant effect of e-government on FDI in 178 host countries. This discrepancy may be attributable to the inclusion of time-specific effects in this study. Notably, the coefficient of political stability for ASEAN is larger than the global average, highlighting the importance of political stability for attracting FDI in the region.

B. Extended estimations for the robustness check

To assess the robustness of these findings, additional analyses are conducted using alternative model specifications. Columns (1)–(3) of Table 7 present results including host countries' trade openness and inflation rate. Columns (1) and (2) include each variable separately, while Column (3) specifies both.

Table 7: Robustness check

VARIABLES	(1)	(2)	(3)
EGOV	3.022*	3.169**	3.095**
	(1.520)	(1.185)	(1.358)
POSB	0.639***	0.624***	0.628***
	(0.141)	(0.126)	(0.132)
GDPC (log)	2.064***	2.364***	2.275***
	(0.355)	(0.274)	(0.367)
GDPG	0.00385	0.00446	0.00279
	(0.0182)	(0.0174)	(0.0205)
EXGR	0.0266**	0.0307**	0.0293**
	(0.0118)	(0.0113)	(0.0118)
OPEN	0.00133		0.00156
	(0.00298)		(0.00301)
INFL		0.0228	0.0233
		(0.0153)	(0.0162)
Constant	2.150	-0.326	0.237
	(3.061)	(2.436)	(3.109)
F-test of overall fit	23083.19***	5979.43***	30414.37***
Observations	90	89	89

Notes: All estimates are obtained using the FE estimator; Year dummies are included; Driscoll-Kraay standard errors in parentheses; *** p < 0.01, ** p < 0.05, * p < 0.1
Source: Author's calculation

As shown in Table 7, the estimated coefficients of both e-government development and political stability remain statistically significant across all specifications. The variations in their magnitudes are minor and consistent with the ASEAN estimation in Table 6, confirming the robustness of the findings.

C. Effects of e-government subindices

The EGDI, a composite index comprising the OSI, HCI, and TII, has demonstrated a significant role in FDI attraction. This analysis investigates the individual contributions of these sub-indices. Estimations presented in Columns (1)–(3) of Table 8 use each sub-index as the sole measure of e-government, while Column (4) incorporates all three simultaneously. Across all specifications, only the OSI coefficient exhibits statistical significance (at the 5% level), highlighting the primary importance of the quality and scope of

public online services delivered by e-government in attracting FDI in ASEAN.

Table 8: E-government subindices

VARIABLES	(1)	(2)	(3)	(4)
OSI	1.614**			1.699**
	(0.636)			(0.652)
HCI		-0.441		-1.028
		(2.645)		(2.456)
TII			0.165	-0.589
			(0.634)	(0.516)
POSB	0.663***	0.580***	0.572***	0.679***
	(0.138)	(0.171)	(0.130)	(0.153)
GDPC (log)	2.113***	2.094***	2.117***	2.068***
	(0.217)	(0.327)	(0.254)	(0.303)
GDPG	0.00308	0.0136	0.0141	0.00230
	(0.0158)	(0.0174)	(0.0121)	(0.0220)
EXGR	0.0277**	0.0259**	0.0260**	0.0273**
	(0.00996)	(0.0105)	(0.0106)	(0.00969)
Constant	2.677	3.658	3.092	3.926
	(1.868)	(4.503)	(2.134)	(4.281)
F-test of overall fit	21125.19***	13712.38***	84430.05***	923.12***
Observations	90	90	90	90

Note: All estimates are obtained using the FE estimator; Year dummies are included; Driscoll-Kraay standard errors in parentheses; *** p < 0.01, ** p < 0.05, * p < 0.1
Source: Author's calculation

V. CONCLUSION AND IMPLICATIONS

This study provides robust evidence of the positive impact of e-government on FDI inflows, making a significant contribution to the existing literature. To the best of our knowledge, this is among the first studies to establish a direct, quantitative causal link between e-government development and FDI inflows in ASEAN. By examining the individual components of e-government development, the study identifies the online service index as the most influential factor, emphasizing its critical role in driving FDI attraction. Additionally, a review of key theoretical frameworks enhances the understanding of the relationship between e-government and FDI, providing a solid foundation for further research.

The findings also underscore the vital role of political stability in attracting FDI. Political steadiness is a decisive factor for foreign investors, ensuring a predictable and secure environment for investment decisions. This positive relationship between political stability and FDI inflows is evident not only within ASEAN but also across other nations included in the World Bank database during the study period.

The results of this study suggest several actionable policy implications. First, ASEAN countries should accelerate efforts to enhance e-government initiatives, capitalizing on the significant advancements achieved during the COVID-19 pandemic. Improved e-government development enhances governmental efficiency and effectiveness, generating broader social and economic benefits. With Singapore being the sole ASEAN member categorized as having very high e-government development, there remains substantial untapped potential for other member states to leverage e-government as a strategic tool to attract FDI. Among the three sub-components of EGDI, the online service index stands out as the only statistically significant driver of FDI. This index captures the evolutionary stages of e-government, progressing from basic online presence to advanced transactional and integrated functions with stakeholders. ASEAN countries should prioritize developing higher-order e-government capabilities, focusing on creating seamless and integrated systems for government-to-government (G2G), government-to-citizen (G2C), and citizen-to-government (C2G) interactions. Moving beyond basic online services to more sophisticated and transactional functionalities will significantly enhance the effectiveness of e-government in attracting FDI.

Furthermore, strengthening regional solidarity and cooperation remains crucial for ensuring and enhancing political stability across ASEAN member states. A stable political environment not only bolsters investor confidence but also fosters sustainable economic growth in the region. By pursuing these strategic initiatives, ASEAN countries can position themselves more competitively in the global FDI landscape.

Despite its contributions, this study has several limitations. First, due to data availability constraints, the analysis relies on static econometric methods. Future research should employ dynamic techniques, such as the generalized method of

moments (GMM), to better address potential reverse causality between FDI and e-government development. Second, both the EGDI and the WGI political stability index are perception-based measures, which may introduce subjectivity. Future studies could incorporate objective (hard) indicators of e-government development and political stability to complement the existing perception-based indices.

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