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DO GOOD INSTITUTIONS AND ECONOMIC UNCERTAINTY MATTER TO FOREIGN DIRECT INVESTMENT?

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ABSTRACT

This study investigates the effects of institutional quality, economic policy uncertainty and other key fundamental factors on foreign direct investment (FDI) inflows for a sample of 22 economies from 2000 to 2019. First, the quality of institutional infrastructure in the host country matter greatly to FDI inflows. Second, a subservient increase in the Economic Policy Uncertainty (EPU) growth rates adversely affects FDI inflows. Additionally, we found that macroeconomic fundamentals pertaining to the level of financial openness, exchange rate stability and financial development in the host country are of great importance to FDI inflows. In essence, the findings from our study suggest that the improvement of macroeconomic fundamentals in conjunction with robust and strong institutional infrastructure can contribute to the moderation of economic policy uncertainty, which deters FDI inflows.

Contribution/Originality: This study contributes significantly to the growing literature on determinants of FDI inflows by examining the critical roles of institutions, economic policy uncertainty and other key decisive factors in FDI decisions by applying the dynamic panel data estimations proposed by Kripfganz (2017) as a distinct methodology alongside the two-step GMM system proposed by Blundell & Bond (1998) on a wider selection of countries.

1. INTRODUCTION

The effects of good institutions and time-varying economic uncertainty on macro economies have attracted the attention of researchers in recent years, especially after the global meltdown as a consequence of global financial crisis alongside various other events, such as Brexit. The report presented by the OECD (2002) advocates the role of enabling institutional environments to reap the maximum benefits from FDI. The literature on FDI began to primarily focus on the importance of institutions in attracting foreign investments, thus suggesting why quality matters. According to Acemoglu, Johnson, & Robinson (2005) and Rodrik, Subramanian, & Trebbi (2004), countries with a good quality of institutions, and that promote property rights and rule of law, create better economic prospects making the country more attractive to foreign investors. Whereas poor quality of institutions can deter foreign capital inflows as it poses a threat to investments as FDI has a very high level of sunk costs, which make foreign enterprises more reluctant to enter new foreign markets unless investment in these markets entails low levels of risk and uncertainty. With regard to uncertainty, several studies have documented the adverse effects of

rising uncertainty on macroeconomic variables[1]. Particularly, there is a large amount of literature that focuses on the effects of uncertainty on financial and production variables[2]. Specific literature also emerged alongside this which shows that high EPU in a country reduces the rate of investments (Baker, Bloom, & Davis, 2016; Gulen & Ion, 2016), lowers domestic production (Caggiano, Castelnuovo, & Figueres, 2017; Karnizova & Li, 2014) and decreases stock returns (Arouri, Estay, Rault, & Roubaud, 2016).

There are several aspects to be considered when analyzing the drivers of FDI flows into a country. This paper focuses on twin factors, namely the quality of institutions in the host countries and domestic EPU levels. The literature also suggests several other key factors such as growth (Bevan & Estrin, 2004; S Globerman, Shapiro, & Tang, 2006), exchange rate (Bevan & Estrin, 2004; Hannan, 2018; Nier, Sedik, & Mondino, 2014) and trade (International Monetary Fund, 2010; McQuade & Schmitz, 2017; Milesi-Ferretti & Tille, 2011). The aforementioned determinants are closely related to the EPU shocks. These factors are adversely affected at times of high levels of domestic EPU (Bernal, Gnabo, & Guilmin, 2016; Karnizova & Li, 2014; Krol, 2014; Tam, 2018). Specifically, FDI flows and EPU are directly associated via domestic fundamentals that are susceptible to EPU shocks, i.e., the deterioration of domestic fundamentals after EPU shocks deters FDI inflows. Some authors, such as Steven Globerman & Shapiro (2003) and Schneider & Frey (1985), suggest that EPUs and host countries' institutions are closely associated. An increase in EPU is often followed by structural changes relating to policies and governance infrastructure. However, several researchers have argued both in favor and against the notion of whether institutional quality matters to FDI. In this study we reassess the debate in conjunction with the role of domestic EPU filling a significant gap in the literature and contributing to the existing literature by examining if institutions and EPU, along with other key factors such as the level of financial development, exchange rate stability and financial openness, explain why FDI flows to where it flows.

We organized this study into five broad sections following the general introduction. Section two reviews the literature on key determinants of FDI flows, followed by section three detailing the econometric methodology and data specifications. In section four we offer detailed discussions on the empirical findings, and section 5 contains the conclusion and recommendations.

2. LITERATURE REVIEW

Although FDI has a significant positive relationship with economic development in the host country, researchers have not yet reached a consensus on what determines FDI inflows. Several studies, such as Adamu & Rasiah (2017); Apaydin (2009); Asiedu (2006); Borensztein, De Gregorio, & Lee (1998); Mohamed & Sidiropoulos (2010); Rodríguez & Pallas (2008); Rogmans & Ebbers (2013) and Roy & Mandal (2012), tried to assess what determines FDI flows to a wide spectrum of economies based on the levels of development, i.e., developed and developing countries using panel, cross-sectional, and time series operations. What emerged as a key factor was economic growth, which represents market size, and according to Schneider & Frey (1985) market size represents efficient utilization of resources and economies of scale. Several studies, such as those by Ang (2008), Bevan & Estrin (2004), Mohamed & Sidiropoulos (2010) and Rogmans & Ebbers (2013), suggest economic growth as a significant driver of FDI. Several other studies highlighted other key factors such as labor force and human capital (Steven Globerman & Shapiro, 2003; Rodríguez & Pallas, 2008), and exchange rate (Bevan & Estrin, 2004; Nier et al., 2014). A negative effect of inflation was reported in studies by Demirhan & Masca (2008) and Rodríguez & Pallas (2008) followed by a significant positive role of trade openness, as reported by Asiedu (2002); Gastanaga, Nugent, & Pashamova (1998); Na & Lightfoot (2006); and Rogmans & Ebbers (2013). The studies of Hübler &

[1] See Bansal, Kiku, Shaliastovich, & Yaron (2014); Bloom (2009); Christiano, Motto, & Rostagno (2014); Nguyen (2020); Strobel, Nguyen Thanh, & Lee (2020) who reported negative effects of economic uncertainty on output, investments, assets and housing prices.

[2] See Bonaime, Gulen, & Ion (2018); Phan, Sharma, & Tran (2018).

Keller (2010) and Rogmans & Ebbers (2013) assert the positive role of infrastructure in attracting FDI, while Hermes & Lensink (2003a) suggest that the level of financial development matters more.

Apart from the macroeconomic factors, the role of institutional quality has also been widely deliberated in the literature. The study by North (1990) provided for the unambiguous association between institutions and economic growth. Empirical works have demonstrated a significant positive link between the quality of institutions and economic growth (Acemoglu & Verdier, 1998). Several studies have focused on examining how institutions affect FDI flows. One of the key factors identified by studies, such as Root (1979); Schneider & Frey (1985) and Wei (1997), is the political factor as a key determinant of FDI flows, and over time the debate intensified with other studies, such as Jensen (2003) who suggested that democratic governments attract more FDI than others, while Li, Resnick, Li, & Resnick (2003) argued that democracy has a negative effect on FDI flows. The most recent studies, such as one by Globerman & Shapiro (2002), emphasized the role of other institutional factors including political, institutional, and legal environments being key drivers of FDI inflows. Following similar lines, Bénassy-Quéré, Coupet, & Mayer (2007) found that bureaucracy, corruption, information, the banking sector, and legal institutions were significant drivers of FDI flows for the selected 52 economies. Buchanan, Le, & Rishi (2012) also argued in favor of institutional quality as a driver of FDI and suggested that institutional quality is negatively associated to FDI volatility. Aziz (2018) also found that economic freedom, ease of doing business, and international country risk are significant drivers of FDI flows to Arab countries.

The literature dealing with the impact of EPU on the macro economy and foreign capital is limited and few studies have tried to assess the growing debate. Baker et al. (2016); Drobetz, El Ghoul, Guedhami, & Janzen (2018) and Gulen & Ion (2016) suggest that rising levels of EPU creates adversities for investments with a slower pace of growth rate in investments. Furthermore, Caggiano et al. (2017) and Karnizova & Li (2014) argue that during times of high EPU episodes investors or consumers are more likely to adopt a "wait and see" attitude by postponing their investments and consumption activities leading to a decreased rate of investments and production.

3. DATA AND ECONOMETRIC SPECIFICATIONS

Overall, our final sample is composed of panel data from 2000 to 2019 and covers 22 countries. A unique feature of our data set is that it includes the turmoil during the 2007–2009 global financial crisis, and any analysis surrounding this crisis should offer useful insights for policy making during abnormal economic events. A list of countries selected in the sample, alongside the summary statistics and correlation matrix for the selected macroeconomic variables and variables of interest, are provided in Table 1 and Appendix Table A1, respectively. The choice of sample countries is based on the availability of data; although the macroeconomic data is available, the data for EPU series from www.policyuncertainty.com provided by Baker et al. (2016) is available only for 22 countries from 1990 to 2020. Thus, our sample comprises of 22 economies falling into the advanced and large emerging economy classifications as per the IMF. The data pertaining to macroeconomic factors were sourced from World Development Indicators (World Bank), World Governance Indicators (World Bank), Penn World Table 10.0 (Feenstra et al., 2015) and the IMF database. The EPU measure is available on a monthly basis from the 1990s consisting of three components, namely newspaper coverage of policy-related economic uncertainty of the countries, the number of federal tax code provisions set to expire in future years in the countries, and disagreement among economic forecasters as a proxy for uncertainty. Following Canh, Binh, Thanh, & Schinckus (2020), we used the growth rate of EPU in December as a proxy for measuring the level of domestic uncertainty. The macroeconomic determinants following the literature consist of a large set of control variables including real GDP growth rate (GDPg); inflation (Inf); gross capital formation (Gcf) used as a proxy for domestic infrastructural developments; human capital (HC); CO_2 emissions as a proxy for environmental degradation (CO_2); trade openness (Trade), real effective exchange rate (REER); and institutional quality (IQ), which represents the mean of six indicators – control of corruption, government effectiveness, regulatory quality, political stability, rule of law, and

voice and accountability. We also used the financial openness index, financial development index and exchange rate stability index to capture the role of other key domestic fundamentals on FDI flows. All these variables are combined in the following basic econometric models.

$$FDIin_{it} = \alpha_0 + \alpha_1 FDIin_{it-1} + \beta_j X_{it} + \delta_1 IQ_{it} + \varepsilon_{it} \quad [1]$$

$$FDIin_{it} = \alpha_0 + \alpha_1 FDIin_{it-1} + \beta_j X_{it} + \delta_1 EPU_{it} + \varepsilon_{it} \quad [2]$$

$$FDIin_{it} = \alpha_0 + \alpha_1 FDIin_{it-1} + \beta_j X_{it} + \delta_1 FO\_index_{it} + \varepsilon_{it} \quad [3]$$

$$FDIin_{it} = \alpha_0 + \alpha_1 FDIin_{it-1} + \beta_j X_{it} + \delta_1 FD\_index_{it} + \varepsilon_{it} \quad [4]$$

$$FDIin_{it} = \alpha_0 + \alpha_1 FDIin_{it-1} + \beta_j X_{it} + \delta_1 ExS\_index_{it} + \varepsilon_{it} \quad [5]$$

Where, FDIin denotes the net aggregate FDI inflows relative to the level of GDP, vector X consist of a set of control variables, IQ denotes the institutional quality, EPU relates to the level of economic uncertainty, FO_index, FD_index and ExS_index specify the financial openness index, financial development index and exchange rate stability index, respectively, and the error term is denoted by ε_{it}.

Our empirical models in Equations 1 to 5 take the form of a dynamic panel data model. Unbalanced panel data and the inclusion of a lagged dependent term as a set of control variables brings a significant risk of endogeneity into our model. Many previous studies, such as those by Globerman & Shapiro (2002) and Liu, Burridge, & Sinclair (2002) among others, faced a similar problem. The use of an dependent variable as one of the explanatory variables has a significant influence on other independent variables, thus giving rise to the problem of endogeneity. Hence, the application of the generalized method of moments (GMM) is suggested when the model faces the problem of endogenous regressors (Nickell, 1981). A solution to the problem of endogeneity was first proposed by Anderson & Hsiao (1982) and Arellano & Bond (1991) who were in favor of using GMM methodology, which was further developed by Arelleno & Bover (1995). The most recent extension to the work of Arelleno & Bover (1995) was proposed by Blundell & Bond (1998) and is widely used in the literature to reduce the possibility of biased estimates associated with fixed effects in short panels and also to solve the problem of endogeneity in dynamic panel data models. Although, the two-step GMM estimator is efficient in dealing with inherent endogeneity in our case, according to Windmeijer (2005), the GMM estimator often produces uncorrected standard errors which can make the estimates unreliable. In order to overcome the shortfalls, Kripfganz (2017) proposed the recently developed methodology named 'sequential (two-stage) estimation two-step GMM estimator of linear panel-data model (SELPDM)'. In the case of the SELPDM, the conventional standard errors are not valid, often when residuals from the first stage have regressed on another set of explanatory variables (often time-invariant) at the second stage.

Therefore, we first estimated Equations 1 to 5 using the two-step sequential (two-stage) estimation of linear panel-data models (SELPDM) proposed by Kripfganz (2017) as our benchmark estimation. Second, we followed the estimation based on Blundell & Bond's (1998) two-step GMM to check for robustness[3].

Table 1 below reports characteristics and computational methodologies of the whole data set (see Table A1 in the appendix for data sources). In conjecture to data properties, Figure 1 reports the average levels of FDI inflows

[3] The two-step GMM estimation system results are presented in the Appendix in Table A3 and Table A4. We also performed other estimation techniques, such as pooled ordinary least squares (OLS), for additional robustness checks; however, the results were found to be insignificant in the pooled OLS estimators suggesting the existence of endogeneity in the estimations, thus SELPDM and system GMM estimators are more likely to be suitable models for the analysis.

in the selected countries. Interestingly, FDI inflows are highest in Netherlands, Singapore, Ireland and Chile amidst the sample of emerging markets, with the least FDI inflows in Japan from 2000 to 2019.

Table 1. Data calculations and descriptive statistics

Variable	Data Calculation	Obs.	Mean	Std. Dev.	Min.	Max.
FDIin	Foreign direct investments as % of GDP	440	5.185	9.28	-39.546	86.589
GDP_g	Real GDP growth rate (annual %)	440	2.962	3.318	-9.132	25.163
Inf	Inflation (GDP Deflator annual %)	440	3.194	4.04	-4.562	37.698
Gcf	Gross capital formation (% of GDP)	439	24.044	6.311	10.217	46.66
Hc	Human capital index based on years of schooling and returns to education, PWT 10.0	440	3.081	0.492	1.782	4.352
CO_2	CO_2 emissions (metric tons per capita)	392	7.794	4.936	0	20.179
REER	Real effective exchange rate (2010 = 100 index)	440	97.587	13.582	54.058	153.494
Trade	Trade openness (export–import/GDP)	440	77.609	73.033	0	437.327
IQ	Mean of six governance indicators	418	0.76	0.146	0.381	0.996
EPU	Δ Log(Country Economic Policy Uncertainty index in December)	436	0.05	0.468	-1.526	1.833
FD_index	Financial development index, IMF	440	0.658	0.227	0	0.958
ExS_index	Exchange rate stability index	440	0.523	0.322	0.085	1
FO_index	Financial openness index	440	0.748	0.34	0	1

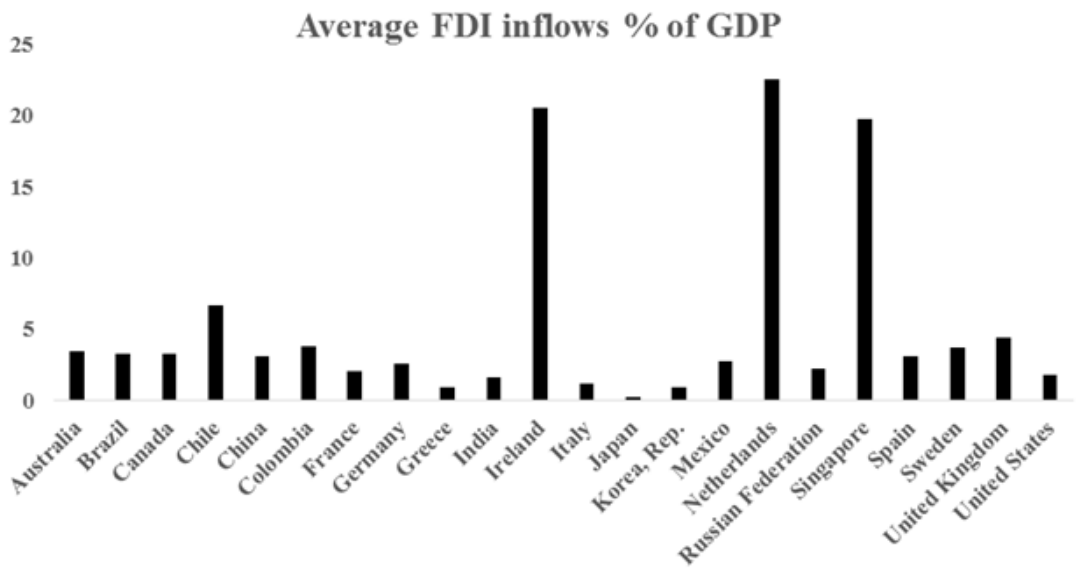

Figure 1. Average levels of FDI inflows.

Table A2 see (Appendix Table A2) reports the correlation between FDI inflows and other key economic, institutional and uncertainty related variables. The preliminary analysis indicated that FDI inflows are positively and significantly correlated with host countries GDP growth rate, trade openness and institutional quality. We also find that there exists a significant notable correlation amidst exchange rate stability and financial openness with FDI inflows. The correlation analysis however fails to draw any insights on the economic uncertainty-FDI linkage.

The results supplied in Table 2 depicts the cross-sectional dependence and unit root properties of our panel data. The cross-sectional dependence (CD) test proposed by Pesaran (2004) confirms the presence of cross-sectional dependence in our data series. Furthermore, the unit root test used on the level data series consisted of two widely used tests, namely the Im–Persaran–Shin unit root test proposed by Im, Pesaran, & Shin (2003) and the Fisher-type test based on the Phillips–Perron type Z (inverse normal) unit root test (Choi, 2001). Both tests suggested that all variables except human capital, CO_2 emissions, real effective exchange rates, and trade openness contained unit

root. Also, our test confirmed that most of our variables are integrated of order 1, i.e., I (1) but none of order 2, i.e., I (2). The following section discusses the empirical results and findings.

Table 2. Cross-sectional dependence test and stationary tests.

	Cross-section Dependence Test		Im–Pesaran–Shin Unit Root Test		Fisher-type Unit Root Test	
Variable	**CD Test Statistics**	**p-value**	**Z-t-tilde-bar Statistics**	**p-value**	**Inverse chi-squared P-Statistics**	**p-value**
FDIin	5.908***	0.0000	-6.7491***	0.0000	89.0305***	0.0001
GDP_g	30.61***	0.0000	-7.4679***	0.0000	89.5285***	0.0001
Inf	7.783***	0.0000	-5.6111***	0.0000	62.4720**	0.0348
Gcf	6.37***	0.0000	-2.8104***	0.0025	59.0923	0.1045
Hc	60.91***	0.0000	11.6812	1.0000	22.1322	0.9976
CO_2	49.70***	0.0000	5.9902	1.0000	20.2212	0.9992
REER	6.647***	0.0000	-0.1614	0.4359	40.8047	0.6094
Trade	12.43***	0.0000	0.4209	0.6631	40.1977	0.6353
IQ	7.626***	0.0000	-2.6627***	0.0039	43.7440	0.4825
EPU	23.823***	0.0000	-12.8145***	0.0000	170.8740***	0.0000
FD_index	18.992***	0.0000	n/a	n/a	37.7526	0.7351
ExS_index	9.641***	0.0000	n/a	n/a	59.5008*	0.0594
FO_index	53.495***	0.0000	n/a	n/a	46.3165	0.3769

Note: *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.

4. RESULTS AND DISCUSSION

The results of our econometric models are shown in Table 3 and Table 4. The results correspond to the benchmark estimation methodology of the sequential (two-stage) estimation of linear panel-data model (SELPDM) proposed by Kripfganz (2017). Alternatively, we also tested our models using the conventional two-step GMM method of Blundell & Bond (1998) (see Appendix Table A3 and A4 for the results). Interestingly, for both of our estimations, all the p-values of AR(2), which corresponds to the presence of second order serial correlation, and the Hansen test, which suggests over-identification of instruments, are statistically insignificant indicating that our estimations are consistent and unbiased (Roodman, 2006).

Table 3 provides the empirical results. The importance of institutional quality has been widely debated in the growing literature; the level of corruption and political instability directly correlates to a country's institutional quality. According to Cleeve (2008), corruption directly affects institutions and political instability which limits the development prospects. Sahu (2008) further argued that unequal distribution of resources create revolt, which restricts the development of more efficient economic and political institutions further restraining FDI inflows. Our empirical results pertaining to the role of institutional quality on FDI inflows advocates that FDI flows are sensitive to institutional quality in the host countries. We found a positive association between institutional quality and FDI flows, a single percentage point increase in the quality of institutions in the host country increases FDI inflows by a significant 4.5996 percentage points. This observation is in line with the conjecture that poor institutions impede FDI inflows. Foreign investors are unwilling to invest in countries where institutions are weak, and corruption, nepotism and red tapism is on the rise, which escalate the cost of doing business (Buchanan et al., 2012; Mengistu & Adhikary, 2011). Furthermore, our empirical findings suggest that countries with stable and robust institutions attract more FDI than others. The interaction term between FDI inflows and institutional quality reveals significant positive results. The coefficient value of 1.1866 percentage points confirms our standalone estimate of the relevance of institutional quality to FDI. In essence, a stable institutional environment coupled with ample FDI inflows can generate positive synergies for growth and development as well as create feedback effect which can attract more FDI.

Table 3. Institutional quality, economic policy uncertainty and FDI inflows (sequential (two-stage) estimation of linear panel data models).

	(1)	(2)		(3)		(4)
	Baseline	**Institutions and FDI**		**EPU and FDI**		**Institutions, EPU and FDI**
L.FDIin	0.9228***	0.7671***	0.0347	0.9739***	0.9465***	0.7667***
	(0.0467)	(0.0963)	(0.0219)	(0.0556)	(0.0487)	(0.0964)
GDP_g	0.1935***	0.1476***	-0.0111	0.1669***	0.1549***	0.1485***
	(0.0237)	(0.0471)	(0.0082)	(0.0335)	(0.0333)	(0.0474)
Inf	-0.1069*	0.5663***	0.1234***	-0.0892	-0.0384	0.5884***
	(0.0624)	(0.1854)	(0.0301)	(0.0845)	(0.0748)	(0.2179)
Gcf	-2.4210***	-0.8187	0.4394**	-1.6748***	-1.6186***	-0.7885
	(0.3796)	(0.6915)	(0.1770)	(0.6378)	(0.6126)	(0.7080)
Hc	-0.0850	1.8270***	0.3741***	0.6845	0.6711	1.8904***
	(0.2969)	(0.4989)	(0.0729)	(0.5829)	(0.5422)	(0.5928)
CO_2	-0.0099	-1.5773***	-0.3456***	-0.3897	-0.4040	-1.6196***
	(0.2187)	(0.4541)	(0.0496)	(0.3442)	(0.3216)	(0.5017)
REER	1.2363***	0.8385	-0.0694	0.8812**	1.0387***	0.9017
	(0.3345)	(0.5452)	(0.1180)	(0.3705)	(0.3547)	(0.6497)
Trade	-0.0108	0.1714	-0.0759*	-0.0924	-0.0282	0.1747
	(0.1472)	(0.2836)	(0.0439)	(0.1585)	(0.1476)	(0.2845)
IQ		4.5996**				4.6140**
		(2.2737)				(2.2757)
FDI*IQ			1.1866***			
			(0.0305)			
EPU				-0.0971		-0.0120
				(0.0705)		(0.0569)
FDI*LEPU					-0.0964*	
					(0.0563)	
Constant	1.8719	-8.8254***	-1.2887**	-0.1453	-1.2222	-9.3708**
	(2.0665)	(2.7924)	(0.5700)	(2.7126)	(2.7727)	(4.0044)
Observations	295	276	276	295	295	276
Number of countries	22	22	22	22	22	22
AR(2) p-value	0.3579	0.4765	0.4156	0.3417	0.3460	0.4808
Hansen's J-test p-value	0.2881	0.6941	0.3941	0.4604	0.3921	0.6200

Note: Standard errors are in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.

The literature dealing with the impact of domestic economic policy uncertainty on the macro economy and foreign capital is very limited; only a few studies have tried to assess the growing debate (Baker et al., 2016; Caggiano et al., 2017; Drobetz et al., 2018; Gulen & Ion, 2016; Karnizova & Li, 2014). We found that a subservient increase in the EPU growth rate in the host country reduces the FDI inflows into that country; more specifically, a one percentage point increase in EPU brings about a 0.0971 percentage point fall in FDI inflows. Although the coefficient lacks significance[4], the results are in line with the conjecture that high EPU episodes negatively affect FDI owing to the "wait and see" attitude of foreign investors, which results in the deferment of investment decisions; the corrosion in growth prospects of the country, which further deters FDI inflows; and sinking FDI investments due to increased uncertainty concerning future political, institutional and legal environments in the host country. We also assessed the roles of interaction factors between FDI and EPU, and we found the coefficient to be significant and negative at a 0.2093 percentage point. The results submit that domestic policy uncertainty is a significant decisive factor for FDI investments. At times of high fluctuations in EPU, FDI falls and otherwise.

[4] The coefficient of EPU was found to be negative and highly significant in our robust estimation (see Appendix Table A3).

Table 4. Financial openness, exchange rate stability, financial development and FDI inflows (sequential (two-stage) estimation of linear panel data models).

	(1)	(2)	(3)
	Financial Openness	**Exchange Rate Stability**	**Financial Development**
L.FDIin	1.0208***	1.0151***	0.7919***
	(0.0750)	(0.0835)	(0.0626)
GDP_g	0.0966*	0.1514***	0.1734***
	(0.0539)	(0.0294)	(0.0451)
Inf	0.6124**	0.2304***	0.2914*
	(0.3008)	(0.0682)	(0.1744)
Gcf	3.1301***	-0.6949***	-2.1871***
	(0.9564)	(0.2296)	(0.6061)
Hc	1.2977***	1.7977***	0.7425
	(0.4655)	(0.4464)	(0.4537)
CO_2	-1.6047***	-0.9249***	-0.8296**
	(0.4868)	(0.2300)	(0.3400)
REER	-1.4722**		2.0130***
	(0.6588)		(0.3443)
Trade	-0.7078***	-0.3393**	0.6208***
	(0.1550)	(0.1604)	(0.2178)
FO_index	5.8658***		
	(1.6113)		
ExS_index		2.0260***	
		(0.5138)	
FD_index			2.0287**
			(0.9301)
Constant	-6.4824**	-1.8327	-7.4750***
	(2.6652)	(1.1346)	(2.8427)
Observations	295	295	295
Number of countries	22	22	22
AR(2) p-value	0.3575	0.3402	0.3644
Hansen's J-test p-value	0.5617	0.4150	0.5608

Note: Standard errors are in parentheses. *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.

Aside from the key determinants, our study also focused on other key drivers of FDI inflows, specifically on the roles of financial openness, exchange rate stability and financial development; Table 4 reports the empirical results. The effects of financial openness and globalization on foreign capital inflows remain controversial. The debate is persistent and remains highly inconclusive as to whether financial globalization or openness is conducive to capital inflows[5]. Our empirical findings on the role of financial openness in driving FDI inflows show that host countries' levels of financial openness are important. A one percentage point increase in the level of financial openness results in an increase in FDI inflows by 5.8658 percentage points. These findings are a significant contribution to the related literature. In a similar fashion, we also sought to discover if exchange rate stability and the level of financial development in the host country are pursued as key decisive factors by FDI investors. Although the literature is extensive and contains a variety of outcomes across countries and methodologies, for instance, in the context of FDI and financial development linkage, the association is ambiguous and several studies argued that FDI promotes financial development through supplementing capital requirements (Levine, 1997). Conversely, another school of thought argues that countries with inherently strong financial sectors attract more FDIs (Alfaro, Chanda, Kalemli-Ozcan, & Sayek, 2004; King & Levine, 1993). Although the two views are differentiated, a wide spectrum of

[5] Previous studies, such as that by Montiel & Reinhart (1999), suggest that capital control affects the composition and not the volume, whereas Asiedu, Lien, Asiedu, & Lien (2004) found that the effects of capital control on FDIs vary over time across countries.

literature is focused on this debate yet the findings remain inconclusive[6]. Our empirical results on the role of financial development suggest that the level of financial development in the host country affects FDIs and that countries with highly robust and strong financial systems attract more FDI inflows. We found that for every percentage point increase in the level of financial development FDI flows rose by 2.0287 percentage points. These robust findings are in line with the findings of previous studies (Alfaro et al., 2004; King & Levine, 1993). We also modeled the role of exchange rate stability alongside the real effective exchange rates and found that the stability of exchange rate policy affects FDIs; for every percentage point increase in the stability of exchange rate, FDIs rose by 2.0260 percentage points.

Alongside the key drivers, the role of key macroeconomic factors is also highlighted in our estimations. We found FDI inflows to be positively correlated with the host countries' economic growth rates, which is used as a proxy for market potential. We also found that human capital, exchange rates and trade openness contribute to other key fundamental drivers of FDIs. The inclusion of carbon emissions signifies the environmental factors in the host country, and our empirics suggest a negative correlation in line with the growing literature on the quality of the FDI–environment nexus. FDIs were found to be circumventing investments into countries with poor environmental laws and pollution control measures. All our findings correlate to the findings from the two-step GMM estimation (see Appendix Table A3 and Table A4) and are in line with the literature on the determinants of FDIs.

5. CONCLUSION

This study contributes significantly to the growing literature on determinants of FDI inflows by examining the critical roles of institutions, economic policy uncertainty and other key decisive factors in FDI decisions using a panel of 22 developed and emerging market economies from 2000 to 2019. By using dynamic panel data estimations proposed by Kripfganz (2017), we can add to the theory in numerous ways. First, we found that institutional quality affects FDI decisions. A stable institutional environment coupled with ample FDI inflows can generate positive synergies for growth and development as well as create a feedback effect, which attracts more FDIs. Furthermore, the effects of the level of domestic economic policy uncertainty were found to be negative on FDI flows, suggesting that a subservient increase in the EPU growth rate in the host country reduces FDI inflows. These robust findings entail the notion that instable policies can ruin business prospects. Another key finding pertains to other key fundamental factors; the empirics suggest that financial openness, exchange rate stability and financial development in the host country substantially matter to FDI inflows. FDI inflows were found to be positively correlated with all these factors in our study. The findings from our study have essential policy implications. Policy makers, particularly in developing countries, should focus on improving macroeconomic fundamentals in conjunction with robust and strong institutional infrastructure that contributes to the moderation of economic policy uncertainty which deters FDI inflows.

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[6] See Ang (2009); Bilir, Chor, & Manova (2019); Desbordes & Wei (2017); Donaubauer, Neumayer, & Nunnenkamp (2020); Kumari & Sharma (2017); Nabila Abdul Bahri & Hakimah Haji Mohd Nor (2019); Saini & Singhania (2018).

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APPENDIX

Table A1. Data Sources & Sample Characteristics.

Variable	Data Calculation	Source
FDIin	Foreign direct investments as % of GDP	WDI, World Bank
GDP_g	Real GDP growth rate (annual %)	WDI, World Bank
Inf	Inflation (GDP deflator annual %)	WDI, World Bank
Gcf	Gross capital formation (% of GDP)	WDI, World Bank
Hc	Human capital index, based on years of schooling and returns to education, PWT 10.0	PWT 10.0, Feenstra et al. (2015)
CO_2	CO_2 emissions (metric tons per capita)	WDI, World Bank
REER	Real effective exchange rate (2010=100 index)	WDI, World Bank
Trade	Trade openness (export–import/GDP)	WDI, World Bank
IQ	Mean of six governance indicators	WGI, World Bank
EPU	Δ Log (Country Economic Policy Uncertainty index in December)	www.policyuncertainty.com provided by Baker et al. (2016)
FD_index	Financial development index, IMF	IMF-FD
ExS_index	Exchange rate stability index	Aizenman, Chinn, & Ito (2010)
FO_index	Financial openness index	(Chinn & Ito, 2006; Chinn. & Ito, 2008)

Table A1. …continued.

	Country	Region	Income Group
1	Australia	East Asia & Pacific	High income
2	Brazil	Latin America & Caribbean	Upper middle income
3	Canada	North America	High income
4	Chile	Latin America & Caribbean	High income
5	China	East Asia & Pacific	Upper middle income
6	Colombia	Latin America & Caribbean	Upper middle income
7	France	Europe & Central Asia	High income
8	Germany	Europe & Central Asia	High income
9	Greece	Europe & Central Asia	High income
10	India	South Asia	Lower middle income
11	Ireland	Europe & Central Asia	High income
12	Italy	Europe & Central Asia	High income
13	Japan	East Asia & Pacific	High income
14	Korea, Rep.	East Asia & Pacific	High income
15	Mexico	Latin America & Caribbean	Upper middle income
16	Netherlands	Europe & Central Asia	High income
17	Russian Federation	Europe & Central Asia	Upper middle income
18	Singapore	East Asia & Pacific	High income
19	Spain	Europe & Central Asia	High income
20	Sweden	Europe & Central Asia	High income
21	United Kingdom	Europe & Central Asia	High income
22	United States	North America	High income

Table A2. Correlation Matrix.

	FDI	GDP_g	Inf	Gcf	Hc	CO_2	REER	Trade	IQ	EPU	FD_ index	ExS_ index	FO_ index
GDP_g	0.2233***	1.00											
p-value	0.0000												
Inf	-0.0589	0.3118***	1.00										
p-value	0.2175	0.0000											
Gcf	-0.0179	0.5567	0.0295	1.00									
p-value	0.7088	0.0000	0.5381										
Hc	0.0528	-0.3218***	-0.3247***	-0.3036***	1.00								
p-value	0.2691	0.0000	0.0000	0.0000									
CO_2	0.0755	-0.0821	-0.1402**	-0.0444	0.6254***	1.00							
p-value	0.1355	0.1045	0.0054	0.3817	0.0000								
REER	0.0245	-0.0406	-0.3329***	0.2072***	0.2434***	0.1424**	1.00						
p-value	0.6084	0.3952	0.0000	0.0000	0.0000	0.0047							
Trade	0.5446***	0.1733***	-0.1606***	0.0721	0.1022**	0.0614	0.0732	1.00					
p-value	0.0000	0.0003	0.0007	0.1316	0.0320	0.2250	0.1252						
IQ	0.2520***	-0.1764***	-0.5056***	-0.1863***	0.6412***	0.4703***	0.2258***	0.3120***	1.00				
p-value	0.0000	0.0003	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000					
EPU	0.0040	0.0663	0.0672	0.0496	0.0194	0.0432	0.0403	-0.0102	-0.0433	1.00			
p-value	0.9331	0.1669	0.1612	0.3020	0.6865	0.3959	0.4018	0.8313	0.3792				
FD_index	0.0394	-0.5214***	-0.4193***	-0.0937**	0.6119***	0.5445***	0.2405***	0.1166**	0.5900***	0.0272	1.00		
p-value	0.4102	0.0000	0.0000	0.0497	0.0000	0.0000	0.0000	0.0144	0.0000	0.5717			
ExS_index	0.2217***	-0.0254	-0.2179***	-0.0089	-0.1565***	-0.0736	0.0437	0.1922***	0.1344***	-0.0653	0.2021***	1.00	
p-value	0.0000	0.5955	0.0000	0.8518	0.0010	0.1460	0.3599	0.0000	0.0059	0.1733	0.0000		
FO_index	0.1895***	-0.3179***	-0.3960***	-0.3942***	0.4977***	0.5483***	0.2250***	0.2429***	0.6354***	0.0142	0.4550***	0.2301***	1
p-value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.7677	0.0000	0.0000	

Note: *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.

Table A3. Institutional Quality, Economic Policy Uncertainty and FDI inflows (Two-step system GMM estimations).

	(1)	(2)		(3)		(4)
	Baseline	**Institutions and FDI**		**EPU and FDI**		**Institutions, EPU and FDI**
L.FDIin	0.6421***	0.1398	-0.0114	0.6947***	0.6363***	0.2446
	(0.0484)	(0.1629)	(0.0089)	(0.1052)	(0.0606)	(0.1657)
GDP_g	0.3171***	0.1341**	0.0029	0.3011***	0.2946***	0.1490*
	(0.0549)	(0.0529)	(0.0056)	(0.0639)	(0.0700)	(0.0843)
Inf	-0.1327	1.6091***	0.0792***	-0.1094	-0.0183	1.5526***
	(0.1099)	(0.3929)	(0.0205)	(0.1272)	(0.1681)	(0.3843)
Gcf	-3.5102***	0.3527	0.3455**	-2.8414**	-1.7736	0.3643
	(1.2144)	(3.7955)	(0.1722)	(1.2689)	(1.2942)	(3.6632)
Hc	1.6953**	6.2762***	0.3229	2.4460***	3.7953***	7.9607***
	(0.8641)	(1.5547)	(0.2143)	(0.9470)	(1.4154)	(2.2409)
CO_2	-1.3755**	-6.0206***	-0.3743***	-1.7935**	-2.6529**	-6.3450***
	(0.7001)	(1.7387)	(0.1189)	(0.7408)	(1.0721)	(1.6091)
REER	2.0807**	1.4574	0.1620	1.8741**	1.4902	1.7008
	(0.8595)	(1.4294)	(0.1166)	(0.8819)	(1.0827)	(1.1833)
Trade	0.3336*	0.2848	-0.0972***	0.2545	0.4657**	0.6190
	(0.1750)	(0.6966)	(0.0366)	(0.2893)	(0.2162)	(0.7371)
IQ		15.8052*				10.7601
		(9.0404)				(7.8351)
FDI*IQ			1.2376***			
			(0.0232)			
EPU				-0.1013		-0.3318***
				(0.0960)		(0.1243)
FDI*LEPU					-0.2093**	
					(0.0986)	
Constant	-2.9498	-29.8340*	-1.7225**	-5.3839	-10.4266	-32.7846**
	(5.2855)	(15.7218)	(0.7122)	(5.6902)	(7.4122)	(13.5825)
Observations	276	276	276	276	276	276
Number of countries	22	22	22	22	22	22
AR(2) p-value	0.6150	0.4200	0.1060	0.5310	0.6100	0.5070
Hansen's J-test p-value	0.5390	0.4090	0.5700	0.5300	0.6040	0.6120

Note: Standard errors are in (). *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.

Table A4. Financial Openness, Exchange Rate Stability, Financial Development and FDI inflows (Two-step system GMM estimations).

	(1)	(2)	(3)
	Financial Openness	**Exchange Rate Stability**	**Financial Development**
L.FDIin	0.4188***	0.6298***	0.3847***
	(0.0895)	(0.1002)	(0.1125)
GDP_g	0.2175***	0.2011***	0.2091**
	(0.0526)	(0.0494)	(0.0954)
Inf	0.7404***	0.2769	0.9593***
	(0.2817)	(0.2220)	(0.3423)
Gcf	1.3101	-0.3988	-2.6109
	(3.2655)	(0.9572)	(2.0965)
Hc	5.0819***	5.4065***	4.8372***
	(1.4743)	(1.7046)	(1.7449)
CO_2	-4.0915***	-3.0702***	-4.9370***
	(0.8409)	(1.0762)	(1.0269)
REER	-0.8495		4.4692***
	(2.1930)		(1.2958)
Trade	-0.2881	-0.2179	2.2565***
	(0.7616)	(0.3283)	(0.7133)
FO_index	5.5033		
	(4.1964)		

ExS_index		3.4983***	
		(1.1469)	
FD_index			5.7537**
			(2.5243)
Constant	-11.6541	-10.6649**	-31.5772***
	(9.6778)	(5.3306)	(8.3086)
Observations	276	276	276
Number of countries	22	22	22
AR(2) p-value	0.9230	0.4950	0.9150
Hansen's J-test p-value	0.8950	0.8110	0.4060

Note: Standard errors are in (). *, **, and *** denote significance levels at 10%, 5%, and 1%, respectively.