

Democracy Matters for FDI

A Thesis

Presented to

The Faculty of International Social Sciences

Gakushuin University

by

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January 2023

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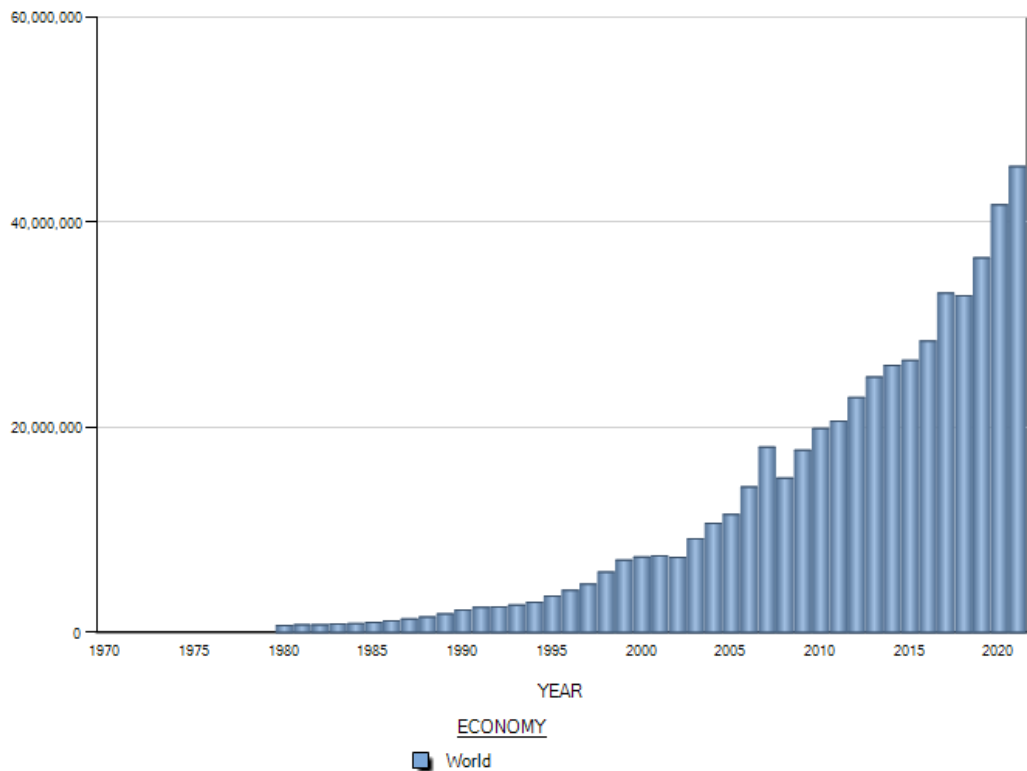
Abstract

This paper studies the effect of political regimes on attracting FDI. More specifically, the relation between democracy and FDI in home and host countries were analyzed by estimating a gravity model, and the study found democracy to be a key determinant for the increase in FDI stock over the period from 1985 to 2015. Additionally, the results showed that the regime type of the host country has more effects in attracting FDI than in the case of the home country.

1. Introduction

Globalization is characterized by a dramatic increase both in trade and Foreign Direct Investment (FDI). Especially, the increase in the amount of FDI flows has been prominent over the last few decades. According to data from UNCTAD (2022), the amount of inward global FDI stocks started increasing in the early 1980s, and began accelerating in the early 2000s which has continued to grow to this day as shown in Figure1.

Figure 1 Annual inward global FDI stocks measured in U.S. dollars at current prices in millions



Source: UNCTAD (2022)

Determinants of FDI have been studied rigorously by researchers. While there

are a number of studies that find various economic factors to be the determinants of FDI, only a limited number of studies show the linkage between political factors and FDI. However, there have been multiple instances in which political motives and factors clearly affected the decisions about whether to engage in FDI activities. A notable example of this can be seen from Japan's failed attempt to develop the Azadegan oil field in Iran. Despite the fact that Japan was eager to improve its energy security through this project, it could not be executed as hoped due to the heightened political tensions between the U.S. and Iran after the September 11 attacks. Japan could not find the middle ground and continue the project while the U.S. expected Japan to put sanctions on Iran (Penn, 2006).

Another example that shows the relationship between FDI and political factors can be found in the case of Russia in recent years. According to a report by OECD (2022), FDI flows to Russia had dropped markedly after the country invaded in 2014 and later annexed the Crimean Peninsula from Ukraine. Russia's downward trend in FDI flows since the annexation became worse after Russia started an unprovoked war against Ukraine in 2022. The impact the war caused on FDI flows in Russia has been extraordinary as many countries are now putting sanctions on Russia and is expected to further accelerate in the foreseeable future. The dearth of FDI caused by the sanctions is thought to be exacerbated by the capital flight that is also taking place in Russia. Becker (2019) shows how capital tends to flow out of an uncertain market, and given the unpredictability that investors must face in a time of war in Russia, the country's current situation with capital should not come as a surprise.

Hegre (2014) pointed out the importance of democracy in avoiding armed conflicts. Countries under oppressive regimes such as Iran and Russia can be said to be

more prone to uncertainty and chaos than more democratic countries.

The aim of this paper is to see the relationship between the degree of democracy and FDI. The newness of this paper is to analyze the bilateral effects on FDI by taking the degree of democracy into consideration for both the origin and destination countries. As I discuss below in the section of the literature review, most of the existing literature has shed light on the relationship between host countries' political regimes and inward FDI, focusing on single or a few host countries. This paper can contribute to the field by showing the effects of bilateral (home and host) countries' political regimes worldwide.

I hypothesize that the degree of democracy for both the origin and destination countries matters in attracting FDI, and the impact of the destination country's regime is even larger. This should hold since investors tend to prefer certainty and democratic countries are more likely to be law-abiding and thus stable and less uncertain than authoritarian countries.

2. Literature Review

This section explores the existing literature that deals with the relation between democracy and FDI. There is no consensus among researchers as existing studies show different results in regard to the ideal regime type for attracting FDI.

Rodrik (1996) was the first to attempt to find the linkage between democracy and FDI. He found that investments made by U.S. multinational enterprises (MNEs) were more likely to be attracted to countries that respected democratic rights.

Busse (2003) observed the activities of MNEs from 69 different countries including both emerging and developing economies spanning from 1972 to 1999. In his research, he concluded that MNEs tended to gather in countries where there was firm

protection for civil liberties and political rights. He also added that countries that were in the process of strengthening democratic rights and liberties gained more FDI per capita than the predicted outcome of FDI per capita in the case of not making any progress.

In contrast, Tuman and Emert (2004) found U.S. MNEs preferred authoritarian regimes in Latin America. As developing countries actively search for capital, the desperation enables those MNEs to demand higher gains and attain property rights before engaging in FDI in these countries. As a result, the local population would be forced to take on the burden to meet the demand. This study suited well with the conventional view that assumed human rights and FDI were incompatible. However, Blanton and Blanton (2007) made an objection to the perception, and argued FDI was more likely to be attracted to a country that had respect for human rights as this indicated more political stability and predictability which made investors more confident in the market of the host country. They also recognized the indirect effects of human rights by noting how they could promote human capital development. Committing FDI in countries that put emphasis on securing FDI would be beneficial for foreign investors as the likelihood of having more talented workers increases.

Yang (2007) focused on the relations between regime types and FDI by using the categorical measure to distinguish democracy from autocracy. Although the result showed a positive correlation between democracy and FDI per capita, the study did not show that democracy was superior to other regime types in attracting FDI. A similar result was obtained in a study conducted by Arslan and Ökten (2010). They found no linkage between democracy and FDI in Turkey over the period of 1970 to 2010.

A more recent study by Gossel (2018) showed a positive linkage between FDI and democracy by investigating the cases of 30 countries in Sub-Saharan Africa spanning

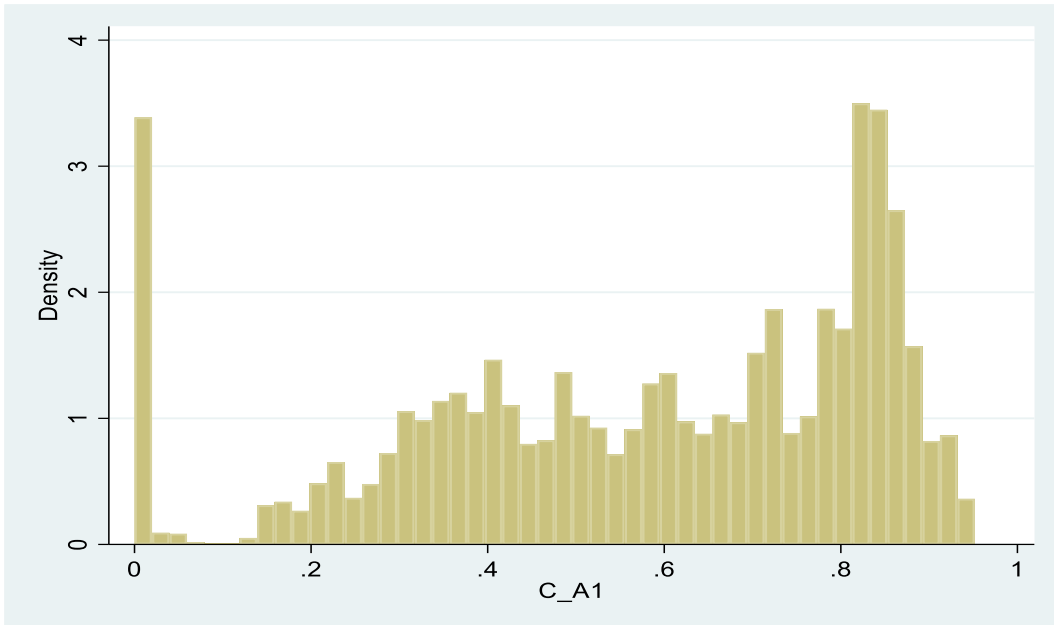
from 1985 to 2014.

3. Data

This study uses the data called “Global State of Democracy (GSoD) Indices” developed by International Institute for Democracy and Electoral Assistance (International IDEA) to show the degree of democracy in each country. International IDEA collects 29 different kinds of data sets that reflect the characteristics of democracy for each country annually. The overall score for the degree of democracy in a country is indicated in the data for “representative government”. This score is composed by reflecting the scores of four independent subfields, namely “clean elections”, “inclusive suffrage”, “free political parties”, and “elected government”. These are the main five attributes that shape democracy and the data are used to conduct this study.

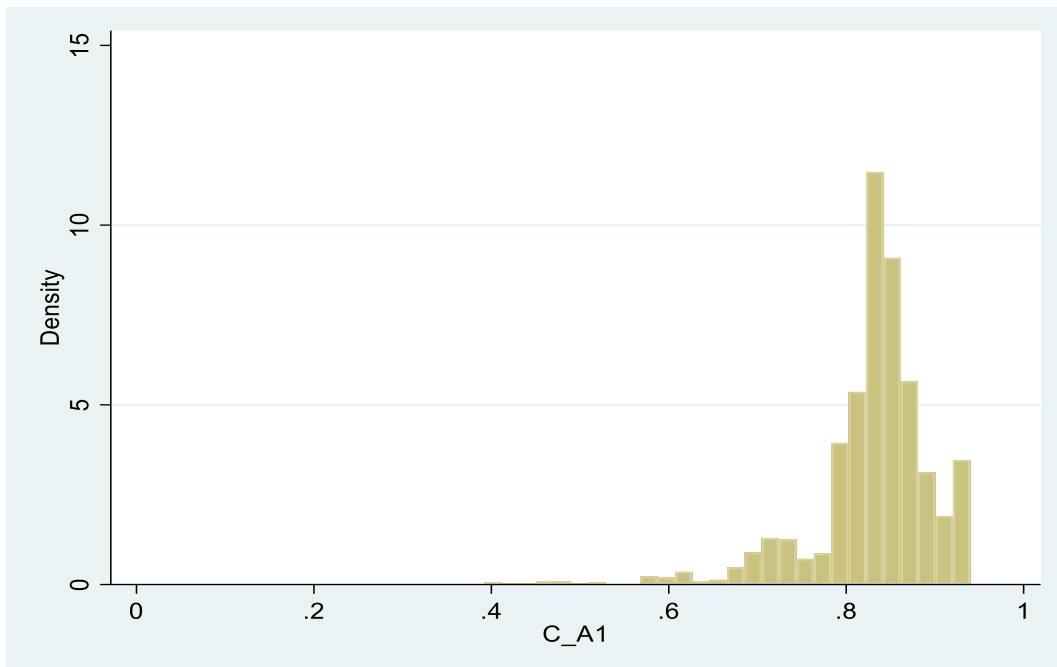
The data on FDI stock, is borrowed from Hoshi and Kiyota (2019), which itself is taken from the OECD International Direct Investment Statistics database. The data covers the period from 1985 to 2015, and for 200 origin countries, and 27 destination countries, which are all OECD countries. To the best of the author’s knowledge, this is the most comprehensive dataset available that shows bilateral FDI flows. Figure 2 shows the distribution of origin countries’ degree of democracy (*c_a1_o*). The mean of the democracy index for the origin countries is 0.58 and its standard deviation is 0.26. Likewise, Figure 3 shows the distribution of destination countries’ degrees of democracy (*c_a1_d*). The mean is 0.83, and its standard deviation is 0.72. Below the mean of 0.83, there are 27,674 countries (out of 77,813) in the data for the destination countries.

Figure 2 Distribution of origin countries' degree of democracy (c_a1_o)



Source: Author

Figure 3 Distribution of destination countries' degree of democracy (c_a1_d)



Source: Author

4. Analytical Method

The relationship between democracy and FDI in home and host countries is analyzed by estimating a gravity model. The estimated equation is expressed as follows:

$$\ln FDI_{ij} = \beta_0 + \beta_1 \ln GDP_i + \beta_2 \ln GDP_j + \beta_3 \ln Distance_{ij} + \beta_4 RTA_{ij} + \beta_5 \text{Common language}_{ij} + \beta_6 \text{Colony}_{ij} + \beta_7 \text{Common currency}_{ij} + \beta_8 \ln + \beta_9 \text{Democracy index}_i + \beta_{10} \text{Democracy index}_j + \tilde{\beta} \widetilde{Year} + \varepsilon_{ij},$$

where i and j indicate origin and destination country respectively. Independent variables include the log of GDP per capita of origin and destination country ($\ln GDP_i, \ln GDP_j$), and the democracy index. Democracy index_i is consisted of 5 types of data, namely representative government (origin), clean elections (origin), inclusive suffrage (origin), free political parties (origin), and elected government (origin). Likewise, Democracy index_j is also consisted of five types of data, namely representative government (destination), clean elections (destination), inclusive suffrage (destination), free political parties (destination), and elected government (destination). The control variables include $\ln Distance_{ij}, RTA_{ij}, \text{Common language}_{ij}$ and $\text{Common currency}_{ij}$ to exclude factors affecting the amount of FDI stocks between the origin and destination country. \widetilde{Year} is a vector of year fixed year effects, and $\tilde{\beta}$ is the corresponding vector of coefficients for year fixed effects.

In addition to the benchmark estimation by OLS above, this study also adopts the Pseudo-Poisson Maximum Likelihood (PPML) estimation, as proposed by Silva and Tenreyro (2006) and widely adopted in the gravity literature. By using this estimator, the issues of the presence of large number of zeros and the heteroscedastic errors can be taken into consideration.

Table 1 Variable description

Variable	Variable description
linstock1	Log of stock values
lpgdp_o	Log of GDP per capita (origin country)
lpgdp_d	Log of GDP per capita (destination country)
ldist	Log of distance
rta	Regional trade agreement (Yes=1, No=0)
comlang_off	Common currency (Yes=1, No=0)
colony	Colonial relations (Yes=1, No=0)
comcur	Common currency (Yes=1, No=0)
comrelig	Common religion (Yes=1, No=0)
c_a1_o	Representative government (origin country)
c_sd11_o	Clean elections (origin country)
c_sd12_o	Inclusive suffrage (origin country)
c_sd13_o	Free political parties (origin country)
c_sd14_o	Elected government (origin country)
c_a1_d	Representative government (destination country)
c_sd11_d	Clean elections (destination country)
c_sd12_d	Inclusive suffrage (destination country)
c_sd13_d	Free political parties (destination country)
c_sd14_d	Elected government (destination country)
auto_auto	Origin country (lower) to destination country (lower) (Yes=1, No=0)
auto_demo	Origin country (lower) to destination country (upper) (Yes=1, No=0)
demo_auto	Origin country (upper) to destination country (lower) (Yes=1, No=0)
demo_demo	Origin country (upper) to destination country (upper) (Yes=1, No=0)
year	year

Source: Author

5. Descriptive Statistics

Table 2 presents the descriptive statistics on the variables used in the study. As mentioned above, the mean of c_a1_o (the overall score for the degree of democracy in the origin country) is 0.58 and the standard deviation is 0.26. For each of the rest of the variables (c_sd11_o , c_sd12_o , c_sd13_o , and c_sd14_o) that focuses on a specific feature of democracy in origin countries, the mean is higher than 0.5 and shares a similar standard deviation as c_a1_o . For the destination countries, the mean of c_a1_d is 0.83 and the standard deviation is 0.07. For each of independent subfields that score the degree of democracy in destination countries (c_sd11_d , c_sd12_d , c_sd13_d , and c_sd14_d), the mean stays close the mean of c_a1_d . For the standard deviation, the number is slightly higher for the four variables than c_a1_d .

To see how FDI stock values evolved by the types of political regimes of origin and destination countries, I classify bilateral FDI stock values into 4 types. An origin country becomes an “upper” country when its degree of democracy is higher than the mean of the scores for all the countries included in the data and vice versa to be a “lower” country. The same applies with a destination country. The 4 types of “partners” are “lower-lower (origin-destination)”, “lower-upper”, “upper-lower”, and “upper-upper”. Table 3 shows that “upper” destination countries have consistently attracted more total FDI over the period from 1985 to 2015 than “lower” destination countries. It also shows that FDI stocks increased most, when bilateral partners belong in the “upper-upper” class.

Table 2 Descriptive Statistics

VARIABLES	N	mean	sd	min	max
lninstock1	77,849	5.541	6.144	0	20.19
lpgdp_o	152,992	2.193	1.644	-2.736	4.759
lpgdp_d	153,040	2.178	1.623	-2.736	4.759
ldist	154,324	8.592	0.806	4.742	9.881
rta	154,324	0.241	0.428	0	1
comlang_off	154,324	0.0960	0.295	0	1
colony	154,324	0.0403	0.197	0	1
comcur	154,324	0.0197	0.139	0	1
comrelig	154,324	0.172	0.249	0	0.990
c_a1_o	77,813	0.580	0.260	0	0.952
c_sd11_o	154,283	0.723	0.253	0	1
c_sd12_o	154,283	0.889	0.196	0	1
c_sd13_o	154,324	0.651	0.192	0.0309	1
c_sd14_o	154,324	0.843	0.263	0	1
c_a1_d	77,840	0.829	0.0720	0	0.940
c_sd11_d	154,286	0.724	0.251	0	1
c_sd12_d	154,286	0.890	0.194	0	1
c_sd13_d	154,324	0.650	0.190	0.0309	1
c_sd14_d	154,324	0.843	0.261	0	1

Source: Author

Table 3 FDI stocks by origin to destination countries' political regimes

1985

Org \ Dest	lower	upper
lower	558973 (0.1%)	41098943 (4.8%)
upper	356500000 (41.7%)	457300000 (53.5%)

1995

Org \ Dest	lower	upper
lower	3363362.5 (0.1%)	34830629 (1.5%)
upper	613600000 (26.8%)	1638000000 (71.5%)

2005

Org \ Dest	lower	upper
lower	39165170 (0.5%)	53979967 (0.7%)
upper	1485000000 (20.5%)	5668000000 (78.2%)

2015

Org \ Dest	lower	upper
lower	96203031 (0.8%)	374400000 (3.1%)
upper	2582000000 (21.3%)	9086000000 (74.9%)

Source: Author

6. Research results and interpretation

The OLS regression results reported in Table 4 show that all the explanatory variables except clean elections (destination), and inclusive suffrage (origin), are statistically significant at the 1 percent level. As for the control variables, as expected, distance shows statistically significant coefficient estimates with negative signs and the others (common language dummy, RTA dummy, colony dummy, common currency dummy, and common religion dummy) show statistically significant coefficient estimates with positive signs.

The estimation results indicate that a one percent increase in FDI stock is associated with a 2.3% increase in representative government (origin)'s democracy index. The number increases to 6.4% as in the case of destination counties.

As for clean elections (origin), free political parties (origin), and elected government (origin), a one percent increase in FDI stock leads to a 2.2%, 3.3%, and 1.4% increase respectively. Inclusive suffrage (origin) shows positive signs, but not statistically significant. Additionally, a one percent increase in FDI stock leads inclusive suffrage (destination) free political parties (destination), and elected government (destination) to have a 1.4%, 8.3%, and 5.2% increase respectively. Clean elections (destination) shows negative signs, but not statistically significant. Overall, destinations countries are more likely to attract more FDI flows by being more democratic.

Table 4 Estimation result 1

	OLS	OLS	OLS	OLS	OLS	PPML
VARIABLES	lninstock1	lninstock1	lninstock1	lninstock1	lninstock1	instock1
GDP per capita						
(origin)	1.947***	1.928***	2.102***	1.958***	2.025***	1.444***
	(0.0121)	(0.0124)	(0.0111)	(0.0114)	(0.0115)	(0.0208)
GDP per capita						
(destination)	-0.237***	0.0472*	0.0493**	-0.397***	-0.0981***	0.338***
	(0.0268)	(0.0267)	(0.0247)	(0.0263)	(0.0254)	(0.0319)
Distance						
	-0.806***	-0.831***	-0.756***	-0.812***	-0.800***	-0.345***
	(0.0228)	(0.0228)	(0.0229)	(0.0225)	(0.0227)	(0.0365)
Common						
language	2.017***	1.921***	1.975***	1.942***	1.986***	1.014***
	(0.0605)	(0.0607)	(0.0611)	(0.0598)	(0.0606)	(0.0580)
Representative						
Government						
(origin)	2.345***					5.177***
	(0.0782)					(0.223)
Representative						
Government						
(destination)	6.401***					6.120***
	(0.252)					(0.595)
RTA dummy						
	0.400***	0.404***	0.668***	0.424***	0.494***	-0.983***
	(0.0462)	(0.0464)	(0.0461)	(0.0456)	(0.0460)	(0.0988)
Colony						
dummy	3.286***	3.331***	3.298***	3.354***	3.258***	0.928***
	(0.0874)	(0.0878)	(0.0883)	(0.0866)	(0.0878)	(0.0669)
Common						
currency						
dummy	2.377***	2.468***	2.592***	2.351***	2.558***	0.418***
	(0.0944)	(0.0948)	(0.0952)	(0.0934)	(0.0946)	(0.0478)
Common						
religion						
dummy	0.250***	0.339***	0.655***	0.194***	0.257***	-0.523***
	(0.0687)	(0.0685)	(0.0683)	(0.0682)	(0.0691)	(0.0697)

Clean elections (origin)	2.218***				
	(0.0763)				
Clean elections (destination)	-0.0150				
	(0.269)				
Inclusive suffrage (origin)	0.0334				
	(0.0743)				
Inclusive suffrage (destination)	1.433**				
	(0.588)				
Free political parties (origin)	3.256***				
	(0.0915)				
Free political parties (destination)	8.308***				
	(0.200)				
Elected government (origin)	1.442***				
	(0.0618)				
Elected Government (destination)	5.256***				
	(0.248)				
Constant	3.191***	7.812***	6.732***	2.267***	2.990***
	(0.290)	(0.310)	(0.612)	(0.254)	(0.318)
Observations	76,661	76,661	76,661	76,706	76,706
R-squared	0.484	0.480	0.474	0.494	0.481
Standard errors in parentheses					
*** p<0.01, ** p<0.05, * p<0.1					

Source: Author

In order to address a large number of zeros, the position pseudo maximum likelihood (PPML) approach is adopted, of which result are shown in Table 4. All the explanatory variables are statistically significant at the 1 percent level. The result predicts representative government (origin) to have a larger increase of 5.2% compared with a 2.2% increase shown in OLS when there is a one percent increase in FDI stock. Although there is a difference between the two results, they are consistent in predicting that democracy leads to FDI more in destination countries.

The OLS regression results reported in Table 5 show that all the explanatory variables are statistically significant at the 1 percent level. As for the control variables, distance shows statistically significant coefficient estimates with negative signs and the others (common language dummy, RTA dummy, colony dummy, common currency dummy, and common religion dummy) show statistically significant coefficient estimates with positive signs which are in accordance with the results attained in Table 4.

In this regression analysis, `auto_auto` is used as a reference variable, because the variable is expected to have the least effects on FDI stocks compared with the other variables (`demo_auto`, `auto_demo`, `demo_demo`). The estimation results show that a one percent increase in FDI stock is associated with a 0.4 percent increase in `demo_auto`, a 0.9 percent increase in `auto_demo`, and a 1.9 percent increase in `demo_demo`. The results of the analyses indicate that FDI is attracted the most when the origin and destination countries are both democratic. Additionally, when the regime type is different between the two countries, FDI is attracted more when the destination country is democratic.

PPML is also adopted and all the explanatory variables are statistically significant at the 1 percent level. The results predict that a one percent increase in FDI

stock is associated with a 2.2% increase in *demo_auto*, a 0.4% increase in *auto_demo*, and a 2.7% increase in *demo_demo*. This goes against the OLS results as they show a larger increase in *auto_demo* compared with *demo_auto*. However, both results are consistent in predicting *auto_auto* to be attracted the least, and *demo_demo* to be attracted the most when engaging in FDI.

Table 5 Estimation result 2

	OLS	PPML
VARIABLES	lninstock1	instock1
GDP per capita (origin)	2.023*** (0.0120)	1.416*** (0.0183)
GDP per capita (destination)	-0.109*** (0.0247)	0.367*** (0.0330)
Distance	-0.756*** (0.0228)	-0.338*** (0.0324)
Common language	2.055*** (0.0604)	0.991*** (0.0597)
<i>demo_auto</i>	0.430*** (0.0555)	2.213*** (0.0848)
<i>auto_demo</i>	0.941*** (0.0507)	0.474*** (0.0897)
<i>demo_demo</i>	1.783*** (0.0531)	2.671*** (0.0910)
RTA dummy	0.555*** (0.0460)	-0.938*** (0.0918)
Colony dummy	3.305*** (0.0874)	0.953*** (0.0711)
Common currency dummy	2.349*** (0.0945)	0.372*** (0.0475)
Common religion dummy	0.275*** (0.0688)	-0.461*** (0.0672)
GDP per capita (origin)	7.906*** (0.227)	10.05*** (0.304)

Observations	76,706	76,706
R-squared	0.484	0.211
Standard errors in parentheses		
*** p<0.01, ** p<0.05, * p<0.1		

Source: Author

Concluding remarks and discussion

The study finds that an increase in FDI stock is associated with an increase in the degree of democracy for both origin and destination countries and the effects are larger for the destination countries. The study also shows pairs (origin and destination country) of democracies are the most ideal regime type for attracting FDI.

As was shown in the literature, FDI has many beneficial impacts, notably technology diffusion and employment in destination countries and more profits for origin countries' parent firms. This paper shows a policy implication of the importance of democracy for FDI.

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