

Abstract

Despite the number of arguments that foreign direct investment (FDI) does not have a significant effect towards growth, empirical studies have shown that FDI indeed plays an important role in the global economy. Various factors are known to attract FDI. There has been multiplicity of researches and various literatures that focuses on and pertains the institutional, social, and international underpinnings of electoral violence, as well as important factors towards political behaviors in attracting FDI. Nevertheless, there is a paucity of research that examines the relationship between elections, electoral violence and the flow of FDI. Thus, this research is aimed to contribute in fulfilling that gap by seeking to examine the effect various determinants in terms of electoral risks, based on the dataset and research by National Elections Across Democracy and Autocracy (NELDA) towards Foreign Direct Investment in 145 countries across the globe and a sub-sample of democratic countries by using the methodology of dynamic panel data analysis using two-step system generalized methods of moments (GMM) as well as the panel data analysis by fixed effect method. The result shows that election does not have a significant effect on FDI. However, one of the measures of electoral violence has a significant effect on FDI in the overall sample as well as in the sample of democratic countries.

Intisari

Terlepas dari sejumlah argumen bahwa investasi asing langsung (FDI) tidak memiliki pengaruh yang signifikan terhadap pertumbuhan, studi empiris telah menunjukkan bahwa FDI memang memainkan peran penting dalam ekonomi global. Berbagai faktor diketahui menarik FDI. Ada beragam penelitian dan berbagai literatur yang berfokus pada dan mempertahankan dasar-dasar kekerasan pemilu, kelembagaan, dan internasional, serta faktor-faktor penting terhadap perilaku politik dalam menarik FDI. Namun demikian, ada sedikit penelitian yang meneliti hubungan antara pemilihan umum, kekerasan pemilu dan aliran FDI. Dengan demikian, riset ini bertujuan untuk berkontribusi untuk memenuhi kesenjangan itu dengan mencari untuk menguji efek dari berbagai faktor penentu dalam hal risiko pemilu, berdasarkan pada dataset dan penelitian oleh Pemilu *National Elections Across Democracy and Autocracy* (NELDA) terhadap FDI di 145 negara di seluruh dunia dan sub-sampel dari negara-negara demokratis dengan menggunakan metodologi analisis data panel dinamis menggunakan metode *two-step system generalized methods of moments* (GMM) serta analisis data panel dengan metode *fixed effects*. Hasilnya menunjukkan bahwa pemilu tidak memiliki pengaruh yang signifikan terhadap FDI. Namun, salah satu ukuran kekerasan pemilu memiliki efek yang signifikan terhadap FDI dalam sampel keseluruhan maupun sampel negara-negara demokratis.



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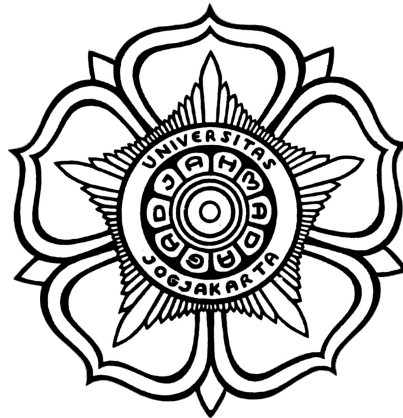


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**The Effect of Elections and Electoral Violence on Foreign Direct Investment
Inflows: Evidence from Cross-Country Data**

BACHELOR THESIS

As a fulfilment of one of the requirements to obtain Bachelor Degree
Economics Program



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CHAPTER 1

INTRODUCTION

1.1 Research Background

Foreign direct investment (FDI) has been playing an important role in the global economy. FDI is one of the most significant types of foreign inflows. Its inward stocks encompass around 42 percent of the world's gross domestic product (GDP) in 2019 (OECD 2020). Besides, empirical studies report that FDI has stimulated economic growth and financial development across the globe (Hansen and Rand 2006; Sirag, Ahmed and Ali 2018). FDI is also reported to have boosted employment (Hale and Xu 2016), triggered technology transfers (Horas 2017), assisted human capital formation (Yaqin and Liu 2016), helped create a more competitive business environment (Hansen and Rand 2006) enhanced enterprise development (OECD 2002) and raised domestic investment (Moreau and Lautier 2012).

Not all economies have been equally successful in attracting FDI. Some are more successful than others. The vast literature on FDI has examined factors which determine the flow of FDI to different countries based on different perspectives. For example, based on the resource-based perspective, it has been found that tangible resources like financial and human capital of firms as well as intangible resources such as contracts, agreement and institutions which reflects competitive advantage plays a big role in attracting FDI (Madhani 2017). Another perspective

that is present is institutional-based view. According to the institutional-based perspective, for example, based on the research by (Oh and Ryu 2019) institutional quality which is reflected through for instance bribery practice plays a role in attracting foreign direct investment, like how it is in China based on the study.

According to Kruja et al, economic risks towards foreign direct investment has been studied extensively. However, there are a lack of research that analyses the impact of political factors towards FDI. According to Bhalla (1983), a change in political risk can result from political changes due to elections, revolts, recession, or wars. Furthermore, the resultant change in political risk can lead towards expropriation, higher taxes or tariffs, reduced FDI incentives, local ownership requirements, local content requirements, or currency inconvertibility. This research is focusing on electoral violence as a form of political factor. Electoral violence is an act that is done by political actors that is aim to influence the process as well as the result of an election. It involves coercive actions towards humans as well as infrastructure

In reality, there has been multiplicity of researches and various literatures that focuses on and pertains the institutional, social, and international underpinnings of electoral violence, as well as important consequences towards political behaviors. However, there is a paucity of research that examines the relationship between elections, electoral violence and the flow of FDI.

1.2 Problem Identification

For many years, there have been extensive and various researches that focuses on institutions towards FDI as well as political determinants and stability towards FDI. Nevertheless, have been a research gap that relies in the analysis of seeing the effect of elections and electoral violence towards FDI. Thus, this paper is aimed to contribute in fulfilling that gap by seeking to examine the effect various determinants in terms of electoral risks, based on the dataset and research by National Elections Across Democracy and Autocracy (NELDA) towards Foreign Direct Investment in countries across the globe by using the methodology of panel data analysis using fixed effect method. There are 4 determinants of NELDA that this research is focusing on, which are;

- Is there evidence that government harass the opposition?
- Were there riots and protests after the election?
- Did the government use violence against demonstrators?
- Was there significant violence involving civilian deaths immediately before, during, or after the election?

1.3 Research Question

As this paper is aiming to investigate the effect that elections and electoral violence have on FDI inflows, there are four research questions that this paper encompass:

1. Does election have a significant effect towards FDI?
2. Does electoral violence have a significant effect on foreign direct investment?
3. Which measure of electoral violence has an impact on FDI?
4. Does elections and electoral violence has a significant effect on FDI in democratic countries?

1.4 Research Objectives

1. To analyse the effect of elections towards FDI inflow
2. To analyse the effect of electoral violence that happens in towards FDI inflow.
3. To identify and analyse electoral violence determinants of interest based on NELDA that has a towards foreign direct investment inflow.
4. To analyse the effect of election and electoral violence in the sub-sample of democratic countries

1.5 Research Contribution

This is expected to contribute to the literature in three ways. Firstly, it is one of only very limited number studies examining the effect on FDI of elections and

the only study linking FDI to electoral violence. Secondly, it makes a direct and explicit comparison of the effect of elections and electoral violence on FDI in democratic and nondemocratic countries. Thirdly, different from most existing studies on the determinants of FDI that limit their sample to developing or developed economies, this paper covers a sample from both developing and developed economies reflected by 145 countries representing all of the regions across the globe.

1.6 Research Scope and Limitations

In a big picture, this research will analyse the effect of electoral violence on FDI using pooled OLS method and Fixed Effect Method. This research uses the logFDI as the dependent variable and will only analyse only the effect on logFDI and does not include other model with another dependent variable. The independent variable of this research is electoral violence and this research will not cover other political determinants. Control variables that is being used in this research are GDP growth, Trade Openness, Military Expenditure, and Inflation. Those variables are not the particular variable of interest, in which those are chosen because of their relations with the dependent variable.

The samples gathered are limited into 145 countries based on the availability of data. This study does not include country groups or region groups. This limitation is implemented regarding the availability of the overall data with the aim in which this research would be able to provide more reliable results.

1.7 Research Structure

1. Chapter I consists of background, problem formulation, research questions, objectives
research, research benefits, scope of research, and systematic research;
2. Chapter II consists of a literature review related to the results of previous research and theoretical framework of this research;
3. Chapter III explains the research design, research models, and data
4. used in research;
5. Chapter IV contains a description of the data and the results of the discussion of the research done;
6. Chapter V contains conclusions, research limitations, and policy implications.

CHAPTER 2

REVIEW OF LITERATURES

2.1 Theoretical Framework

2.1.1 Determinants of FDI

FDI refers to an investment involving a long-term cooperation and reflecting a lasting interest and control by a direct investor or parent enterprise in a host country or economy (UNTCAD 2007). The vast literature on FDI has examined factors which determine the flow of FDI to different countries based on different perspectives. The most common perspective is resource-based perspective. Based on the resource-based perspective, it has been found that tangible resources like financial and human capital of firms as well as intangible resources such as contracts, agreement and institutions which reflects competitive advantage plays a big role in attracting FDI (Madhani 2017). According to Walsh and Yu (2010) there are several macroeconomic variables or determinants that are thought to be associated with FDI inflows. Those variables are as follows;

Market Size and Growth Potential

Numerous previous studies has confirmed that market size is one of the key driver to attract FDI inflows. The main argument is that a larger market size in the host country attracts more FDI. Based on a country group specific research by Petrović-Randelović et al (2017), in the West Balkan countries, market size and market growth has a positive effect on FDI. Another research by Ho (2013) shows that market size and other major determinants shows a positive effect on FDI in Malaysia and BRICS Countries.

Trade Openness

According to Walsh and Yu (2010), trade openness is also one of the key drivers in attracting FDI. According to Resmini (2000) in Central and Eastern Europe, the increase of trade openness results in the finding of an increase of vertical FDI inflows. Furthermore, a research by Singh and Jun (1995) export orientation is also fundamental in regard of FDI inflows and it is related to the rising complementary of trade and FDI inflows.

Exchange Rate Valuations

The third determinants that the Walsh and Yu (2010) point out is exchange rate valuation. A weaker real exchange rate are expected to increase vertical FDI. It is due to the fact that firm takes advantage of lower prices in host economies to purchase facilities and increase home-country profits on goods sent to a third market.

Clustering Effects

According to Walsh and Yu (2010), foreign direct investment may benefit from the presence of external scale economies, where new investors follows investment decisions of other investors in choosing where to invest. Furthermore, studies have identified clustering effects, in which foreign firms appear to gather due to linkages among projects.

Political Stability and Institutions

Political stability and institutional quality is also known to be one of the main driver in attracting foreign direct investment. Based on various literatures ((Busse and Hefeker 2005), (Abdel-Latif 2019) (Goswami and Haider 2014)) political stability and institutional quality plays a big role in gaining FDI inflows in which a more politically stable countries are considered as a more attractive FDI destination.

2.1.2 The Effect of Institutions on FDI

Besides the resource-based perspective, the discussion on FDI also discusses the institutional-based perspective. Generally, institutions and institutional quality are associated with political aspects, as well as political risk. Overall, it is discussed that lower risks should attract more FDI. It is reflected by what was happening in Myanmar (Saudi, 2019). Before the installation of civilian government in 2010, the country was under military control. After their reform,

multinational enterprises and developed countries like Japan and the USA are attracted to invest. This observation based on the case of Myanmar shows a possible link and importance of political risk on FDI.

Furthermore, Hayakawa et al addressed that political risk can be interpreted as the risk that leads to the decrease of return to investment due to poor institutional quality and political instability. Those factors could also affect the operating cost of investment in which under that condition, there would be lengthy delays in obtaining permits which leads to the increase of production costs of foreign firms. When the institutional quality is poor, there could be an indication of corruptions like demand for special payments and bribes, in which it surely decreases the attractiveness for investors. Furthermore, the high sunk cost of FDI due to those factors in the end leads to the discouragement of firms to invest there (Helpman et al., 2004).

Regarding country risk, besides political risk, there is also something called financial risk. It refers to the ability of a country to repay its foreign liabilities. According to Hayakawa et al, countries with higher financial risk are more likely to face an abrupt financial crisis. How does financial risk increase? First of all, according to the research, when the amount of foreign debt increases relative to the borrowing country's GDP, the country's ability to repay its debt will decline thus the financial risk of that country will increase. Multinational companies find those countries with too much foreign debt unattractive for investment, *ceteris paribus*.

The discussion paper of ERIA by Hayakawa et al provides various empirical results. First, based on the research of Gatstenga et al (1998), with the sample of 22

countries, lower corruption, lower nationalization risk, and better contract enforcement leads to a greater FDI inflow. Based on the empirical result written in the ERIA discussion paper by Hayakawa et al, with 93 countries as a sample and based on the methodology of fixed effect model, a higher FDI inflows in the past is regarded as a friendly business climate for foreign investors. Furthermore, the research also indicates that a change in the level of political risk affects FDI. It appears that when the initial political risk in a country is high, a significant decrease of political risk can help a country attract greater FDI. However, financial risks enter with negative coefficients, as it is not statistically significant in any level, nor the change of it. This is also in line with the research of Wei (2000) in which it is found that corruption significantly impedes FDI inflow. With a sample of 83 countries show that government stability, internal and external conflict, corruption, law and order, and democratic accountability of government, and the quality of bureaucracy are the determinants that significantly affects FDI, the result of Busse and Hefeker research show that investment profile, internal and external conflict, ethnic tension, and democratic accountability are important determinants of foreign investment flows.

Another research, which was conducted by Haider and Goswami uses 12 political risk indicators from ICRG which includes; government stability, socioeconomic conditions, investment profile, internal conflict, external conflict, corruption, military in politics, religion in politics, law and order, ethnic tensions, democratic accountability, and bureaucracy quality. The 12 indicators are grouped into 3 factors. The first factor includes; bureaucracy quality, corruption, socio

economic instability, military in politics, democracy quality, and law and order. Those factors are closely aimed at governments, thus it is called the governance failure. The second factor includes; religion in politics, ethnic tension, external conflict, and internal conflict. Those indicators, which are culture in nature, are called the cultural conflict. The last but not least, the third factor includes; government instability and investment profile. Haider and Gosawarni explained that according to their observation, those indicators are closely related to the partners' attitude on the host country are determined by those and thus they call it partners' attitude. In this research, they are using pooled OLS and fixed effects. The result shows that the government failure factor in fact encourages FDI inflow based on the fixed effect specification. In contrast, cultural conflict and partners' attitude significantly deters FDI inflow.

2.1.3 The Effect of Elections and Electoral Violence on FDI

In theory, an election is a form of event to adjudicate between rival claims to rule, as well as a form of democracy or mechanism that allows citizens to have a greater say about how they want to be governed (Birch , Dexecker and Høglund 2020). Across the globe, many nations have the opportunity to elect their governments. Based on the dataset by NELDA, there are 217 nations that have the opportunity to do so. According to Collier and Chauvet (2009), elections are reflections of democracy and is a key form of institutional technology in which in fact, due to elections, economic policies and governance has improved, in the case of developing countries. However, in practice, a lot of nations fail to conform safe

and smooth elections. Various electoral violence takes place. According to Collier and Chauvet (2009), elections are reflections of democracy and is a key form of institutional technology in which in fact, due to elections, economic policies and governance has improved, in the case of developing countries. Electoral violence that takes place in numerous non-democratic countries are indeed a part of electoral risk. Previous researches have linked electoral violence on aggregate societal and institutional factors including ethnic polarization and level of democracy. Across the globe, especially in countries where democracies are not yet fully consolidated, significant levels of violence occurs throughout the electoral process. According to the Journal of Peace Research regarding electoral violence by Birch et al (2020) electoral violence can happen in all parts of the electoral cycle and it involves coercive acts against the people and even infrastructures. It covers various manifestations and outcomes. In various economies, elections are also held during times of armed conflicts, like in Afghanistan. Since the beginning of the war in Afghanistan in 2001, voters have gone through the polls for 8 times. In practice, elections can happen before, during and even after the election. In some nations, electoral violence are made in purpose as a political strategy. Various literatures has shown that for some leaders, electoral violence can be an attractive political tactic. Furthermore, electoral violence also constitutes various forms of electoral manipulations. This includes tempering with the registration process, vote buying or electoral fraud, in which it shows how this type of electoral violence is a form of manipulating the electoral process.

Based on the findings of several researches, democracy has been positively linked with FDI inflow in both emerging and developing countries (Globerman and Shapiro 2002, Harms and Uspung 2002, Busse 2004). However, there is other finding that stated otherwise. According to Onyeiwu and Shrestha (2004), political rights like election does not have a significant effect on FDI.

Nevertheless, there are several mechanisms through which elections may affect FDI inflow. First of all, elections and electoral violence may reflect institutional quality that determines the cost of doing business in an economy. There are several measures taken into account to determine institutional quality ranging from; democracy, political instability, corruption, to operational risk and bureaucracy (Ali, Fiess and MacDonald 2010). Those measures are closely associated with elections and electoral violences, According to Sabir and Abbas (2019), Mengistu and Adhikary (2011), low institutional quality can deter FDI and can act like a tax, thus increasing the cost of FDI in which leads to the unwillingness of investors to invest in countries where institutions encourage corruptions, nepotism, and red tape because these reflects the cost of doing business. This is also in line with the findings of Sabir et al (2019) in which political stability, in this case, as a measure of institutional quality in a country also motivates and attract investors.

Second of all, still related to institutional quality, is how elections and electoral violence may be a source of fluctuation in political and policy uncertainty. According to Julio and Yook (2016) quality of institutional quality is an important determinant on how uncertainty works through capital flows. Julio and Yook (2016) also stated that election timing admittedly a very broad measure of political

uncertainty, capturing not only possible changes in leadership and government policies, as well as the composition of authorities. Their shows that FDI flows from US companies to foreign nations when election takes place and increase after political uncertainty that affects policy is resolved consistent with that political uncertainty deters FDI.

2.2 Previous Findings

There are various researches that is taken into account as references. These researches varies from analyzing the effect of political determinants on FDI as well as elections on FDI, presented in the table below;

Author	Title	Findings
Sean Joss Gossel (2020)	FDI and Elections in Sub Saharan Africa	<ul style="list-style-type: none"> • FDI inflows are deterred by both executive and legislative elections • FDI is less effected by post-election violence
Samina Sabir et al (2019)	Institutions and FDI: Evidence from Developed and Developing Countries	<ul style="list-style-type: none"> • Institutional quality has a positive impact on FDI in all groups of countries (developed and developing)
Gour Gobinda Goswami and Samai Haider (2014)	Does Political Risk deter FDI inflow? An Analytical Approach using Panel Data and Factor Analysis	<ul style="list-style-type: none"> • Government failure is the main contributor of poor FDI inflow in a country
Alemu Mengistu and Bishnu D. Adhikary (2014)	Does Good Governance Matters for FDI Inflows? Evidence from Asian Economics	<ul style="list-style-type: none"> • Six components of good governance, political stability, absence of violence, government effectiveness, rule of law, and control of corruptions are key determinants of FDI.
Brandon Julio and Youngsuk Yook (2016)	Policy Uncertainty, Irreversibility, and Cross-Border Flows of Capital	<ul style="list-style-type: none"> • FDI flows of US companies to foreign affiliates drop significantly during the period just before an election and increased when uncertainty is resolved.

2.3 Research Hypothesis

There are several points that this research points out several hypotheses that are expect on the result

1. As suggested by previous literatures and theories, elections are expected to have a negative significant effect on the FDI inflow in a nation, as it reflects institutional quality that encompasses various measures including political stability. Furthermore, election may indicate policy and political uncertainty. Changes of leaderships that takes place during the election are expected to effect FDI inflow as investors expect leaders who are in favor of investors.
2. As suggested by previous researches, electoral violence is expected to have a negative significant effect on FDI as it is reflecting an instability of political dynamics as a part of institutional quality. Furthermore, countries with higher electoral violence indicates higher political risks on investors, thus it is expected to have a negative effect on FDI.

CHAPTER 3

DATA AND METHODOLOGY

3.1 Data, Variables, and Empirical Model

This research will encompass countries across the globe that has at least ran an election once within the respective period of time based in the National Elections Across Democracy and Autocracy (NELDA). However, the sample chosen and included in the regression is based on the availability of data. The countries represents all of the regions in the world, with variety of different income level political system as well. Moreover, we are also going to analyse the effect of elections and electoral violence on FDI in a smaller sample or sub-sample, which is specifically democratic countries amongst the overall dataset. Democratic countries in our dataset are denoted by the democratic index of 6 and above based on the Polity5 dataset, in reference of the research by Gossel (2020).

In this research, there are various variables considered, which are divided into the dependent variable, key independent variables, and control variables. Our datasets are obtained from various sources, which will be explained further as follows on the next page of this research;

Table 1 - Variable Descriptions

Variables	Definition	Source
Dependent Variable		
FDI Inflow	%GDP	<i>World Development Indicator</i>
Key Independent Variables		
Elections	1 = there is an election 0 = otherwise	<i>NELDA</i>
Neldaviolence	1 = there is at least one measure of violence occur, 0 = otherwise	<i>NELDA</i>
VIOLENCE15	1 = NELDA15 occur, 0 = otherwise	<i>NELDA</i>
VIOLENCE29	1 = NELDA29 occur, 0 = otherwise	<i>NELDA</i>
VIOLENCE31	1 = NELDA31 occur, 0 = otherwise	<i>NELDA</i>
VIOLENCE33	1 = NELDA33 occur, 0 = otherwise	<i>NELDA</i>
Control Variables		
<i>Real GDP</i>	US\$	<i>World Development Indicator</i>
<i>Democracy dummy</i>	1 = democratic, 0 = non democratic	<i>Center for Systemic Peace</i>

<i>Trade Openness</i>	the sum of imports and exports of goods and services (% of GDP)	<i>World Development Indicator</i>
<i>Inflation</i>	Growth rate in Consumer Price Index (%)	<i>World Development Indicator</i>

For the dependent variable, are utilizing the data of Foreign Direct Investment (FDI) inflow obtained from the World Bank within the year 1990 - 2018. The data provides information regarding the FDI inflows of countries across the globe, from low income to middle and high. Previous researches use different FDI measures, ranging from FDI flows (in levels or in logs), FDI stocks, FDI as a share of GDP, as well as FDI per capita (Sauvent and Sachs,). Regarding the usage of FDI net inflows, there is a justification of the underlying reason of using the respective variable instead of FDI stocks. First of all, based on the findings of Beugelsdijk, et al. (2010) FDI stocks are a biased measure of Multinational Enterprises' affiliates activity as it results in an underestimation of affiliate activity in respective countries. Furthermore, FDI inflows are often a sign indicating an attractive investment climate. Thus, we used the FDI net inflows represented in logarithm current US\$. Furthermore, Sauvent and Sachs also stated that the benefit of using FDI inflows in logarithm is that the data are much less skewed than levels or normalized levels. However, we synchronized the data with the NELDA data and does not encompass all the countries and country groups provided by the World Bank.

In this research, the key independent variables focuses on elections and electoral violence events that occur in those 153 countries, obtained from the National Elections Across Democracy and Autocracy (NELDA). First of all, we created dummy variable which are elections that takes place within the 30 years of time. Next, we created the dummy of the overall violence that denotes if at least one of the four determinants of electoral violence takes place in both executive and legislative elections in respective years, which is described as;

1. ELECTION: a dummy that indicates election that takes place
2. NELDAVIOLENCE: a dummy variable that includes electoral violence based on all four the NELDA determinants in either one or both executive and legislative elections.

Furthermore, we also analysed each of the 4 measures that reflects electoral violence obtained from the NELDA dataset as mentioned below:

1. Nelda 15: is there any evidence that he government harassed the opposition
2. Nelda 29: is there any riots and protests after the election
3. Nelda 31: did the government use violence against demonstrators
4. Nelda 33: Was there any significant violence involving civilian deaths before during or after election

Each of the NELDA variables occurs in both executive elections and legislative elections, creating a time duplicate in the data. Thus we created new

dummy variables that describes when violence occurs in either one or both executive and legislative elections in respective years, written as follows;

1. Volence15
2. Violence29
3. Violence31
4. Violence33

Literatures have stated that there are considerable amounts of variables that are likely to have a persistent result regarding their impact on FDI. First and foremost is Gross Domestic Product (GDP). The variable mentioned indicates the size of a market in which it reflects the attractiveness of investment ecosystem in the economy (Chakrabarti 2001) Next, openness to trade is also likely to have a persistent result with respect to their effect on FDI. It is measured by the ratio of imports and exports to GDP. Furthermore, trade openness is also linked to other forms of policy imperfections, such as exchange rate controls which leads to either a reduction or increase in foreign investment inflows. According to Chakrabarti (2001) as well, openness to trade is expected to have a positive effect on FDI.

Another control variable taken into account is democracy dummy. This data is gathered from the Centre for Systemic Peace – Political Regime Characteristics and Transitions dataset. It is expected to have a positive effect on FDI. Furthermore, inflation rate is also expected to have a persistent result on FDI. It is expected to be closely linked to a range of forms of policy distortions, such as fiscal or monetary imbalances (Aizenman, 2003). With this background, four control variables are

used to in the regression. The variables includes; Real GDP, Democracy, Trade Openness, and Inflation.

The variables that are expected to be positively associated with FDI are Gross Domestic Product, Democracy and Openness to Trade, while military expenditure and inflation rate are expected to have a negative linkage with FDI.

Following the introduction of the data and variables, we now turn to the fixed effect empirical model that we use in this research, written as follows;

The effect on election and electoral violence on FDI:

$$\log FDI_{it} = \beta_0 + \beta_1 ELECTION_{it} + \beta_2 NELDAVIOLENCE_{it} + \beta_3 \ln GDP_{it} \\ + \beta_4 TRADE_{it} + \beta_5 MILITARY_{it} + \beta_6 INFLATION_{it} + u_{it}$$

Moreover, since we also employ another method which is the system generalized method of moments, a model is also specified;

$$Y_{i,t} = Y_{i,t-n} + \beta K_{i,t} + \delta L_{i,t} + \varepsilon_{i,t}$$

In the above model, Y can be explained as the FDI, $Y_{i,t-n}$ is the lagged dependent factor, $K_{i,t}$ are the election and electoral violence dummy factors, and L is the set of the four control variables encompassing log of GDP, democracy, trade openness, and inflation, and the last but not least is the error term.

3.2 Research Methodology

In this research, electoral cycle along with the electoral violence that are present varies within the period and country samples. Thus, we employed three econometric techniques to provide a wider analysis. The first one is pooled OLS and then further panel data analysis with fixed effect, and last but not least, the general method of moments (GMM) method. Prior to the research, various tests were ran including the testing of multicollinearity by using variance inflation factor. Moreover, heteroskedasticity is also being tested, and we added a cluster robust standard error in country level to the regression to tackle the problem of serial correlation and heteroskedasticity. Furthermore, we also tested for the year dummy by testparm, thus we added year dummy denoted by $i.year$ to all of our regressions to control for time-fixed effect.

Pooled OLS

The first technique that we obtained was pooled OLS. The result of pooled OLS regression may result in statistically significant coefficients, the slope may as well indicate expected sign, and the R^2 value are most likely going to be high. However, according to (Gil Garcia and Puron-Cid 2014) pooled OLS only accommodate observations for each case over time and does not provide distinction across cases and across time. As the estimation disregarded the effects over each samples and time, it will distort the real picture of the effect or relationship of variables being studied. Thus, as a more sophisticated approach, with respect to the panel analysis, we obtain a fixed effect model.

Fixed Effect

The panel data analysis with the fixed effect model approach allow us to distinguish more systematically between the effects of electoral violence on FDI and to account for unobserved country-level heterogeneity, as in previous literatures, researcher uses fixed effect for unobserved, unit specific, and time invariant confounders when estimating causal effects from observational data (Imai and Kim, 2019). Moreover, Gil-García and Puron-Cid (2014) stated that fixed effect models allow for accommodating aspects of social reality that interacts with the variable of interest in a more efficient way. With respect to that, we employ a fixed effect model with cluster robust standard error in country level. However, fixed-effect models still encompass various limitations regarding this research. Our data is non-stationarity. As a result, we employ an even more sophisticated method that fits the condition of the data and to prevent inconsistency, which is the generalized method of moments.

Two-Steps System Generalized Method of Moments

To begin with, prior to the regression, we employed several techniques. First of all, we employ a unit root testing for stationarity and then treated the respective variable with Hodrick-Prescott filter. Next, we employed tests for multicollinearity and heteroskedasticity as well, shown in appendix.

In this research, an orthogonal GMM analysis of Arellano and Bover (1995) is employed to examine the effect of elections and electoral violence towards FDI.

There are various advantages that are present when GMM is applied. First of all, this method accommodate and controls for endogeneity of a lagged dependent model between the explanatory variable and the error term in the model. This research contain observations of a large number of countries, each observed at several points, thus, GMM would be a compatible method as it accommodates and controls for omitted variable bias, unobserved panel heterogeneity, and other measurement errors and unnecessary assumptions

CHAPTER 4

EMPIRICAL RESULTS

4.1 Summary Statistics

First and foremost, we obtained a statistical summary of the data that we take a look into, as explained by Table 2 below:

Table 2 Summary Statistics

	mean	sd	min	max	count
fdigdp	4.439	11.2	-58.323	280.132	3435
election	0.266	0.442	0	1	3435
violence15	0.045	0.206	0	1	3435
violence29	0.051	0.221	0	1	3435
violence31	0.024	0.154	0	1	3435
violence33	0.056	0.23	0	1	3435
trade	82.403	48.558	0.167	437.327	3435
hp_loggdp	0.001	0.074	-0.591	0.346	3435
inflation	7.645	21.331	-60.496	891.188	3435
democr	0.735	0.442	0	1	3435
N	3435				

As explained by Table 2 above, this research includes 3435 observations in total which encompasses 145 countries within 30 years period of time within the year 1990 – 2018. The dependent variable which is *fdigdp* mean of 4.484 and standard deviation of 11.2. We also put a lagged dependent variable on the regression. By including that variable, according to Bermejo (2005), possible endogeneity bias is treated and it captures the long run effect. The independent variable which are dummies of NELDA and varies within our models is also shown on the summary statistics. Furthermore, the control variables which are; *gdpgrowth*, *democracy*, *trade openness* and *inflation* are also shown and has the same number of observation which indicates a balanced panel data.

4.2 Results and Analysis

Prior to the regressions, we employed several statistical tests including the testing of multicollinearity by using variance inflation factor as shown on table 7 on appendix. Moreover, heteroskedasticity is also being tested, as shown on table 8 on appendix and we added a cluster robust standard error in country level to the regression to tackle the problem of serial correlation and heteroskedasticity. Furthermore, we also tested for the year dummy by *testparm* on table 9, thus we added year dummy denoted by *i.year* to all of our regressions to control for time-fixed effect.

Regarding the GMM method, first of all, we employ a unit root testing for stationarity by Dickey-Fuller chi individual unit root test. The result shows that, amongst all of the non-dummy variables tested, *logGDP* are non-stationary. As a

result, we employed the treatment of hodrick-prescott filter. Moreover, we also test for multicollinearity and heteroskedasticity as well, shown in appendix.

4.2.1 Elections and Electoral Violence on FDI by Pooled OLS and Fixed Effect

Table 3 - Elections and Electoral Violence on FDI by Pooled OLS

VARIABLES	(1) Pooled OLS	(2) Pooled OLS	(3) Pooled OLS	(4) Pooled OLS	(5) Pooled OLS
election	-0.311 (0.383)	-0.212 (0.419)	-0.385 (0.405)	-0.294 (0.390)	-0.135 (0.435)
violence15		-0.586 (0.474)			
violence29			0.383 (0.726)		
violence31				-0.186 (0.864)	
violence33					-0.827* (0.488)
hp_loggdp	-1.818 (2.200)	-1.829 (2.202)	-1.817 (2.200)	-1.813 (2.206)	-1.820 (2.202)
trade	0.0577*** (0.00532)	0.0577*** (0.00532)	0.0578*** (0.00533)	0.0577*** (0.00532)	0.0575*** (0.00533)
inflation	-0.00379* (0.00228)	-0.00367* (0.00221)	-0.00380* (0.00230)	-0.00378* (0.00227)	-0.00374* (0.00222)
democ	0.0345*** (0.0101)	0.0339*** (0.0101)	0.0351*** (0.0102)	0.0343*** (0.0101)	0.0333*** (0.0102)
Constant	-2.400*** (0.407)	-2.401*** (0.407)	-2.403*** (0.407)	-2.401*** (0.407)	-2.368*** (0.409)
Observations	3,420	3,420	3,420	3,420	3,420
R-squared	0.087	0.087	0.087	0.087	0.087

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4 - Elections and Electoral Violence towards FDI by Fixed Effect

VARIABLES	(1) Fixed Effect	(2) Fixed Effect	(3) Fixed Effect	(4) Fixed Effect	(5) Fixed Effect
election	-0.477 (0.396)	-0.452 (0.448)	-0.610 (0.451)	-0.537 (0.410)	-0.583 (0.492)
violence15		-0.147 (0.475)			
violence29			0.685 (0.631)		
violence31				0.642 (0.970)	
violence33					0.483 (0.589)
trade	0.00282 (0.0284)	0.00280 (0.0284)	0.00267 (0.0284)	0.00275 (0.0284)	0.00254 (0.0285)
inflation	0.00234 (0.00401)	0.00230 (0.00409)	0.00254 (0.00405)	0.00239 (0.00402)	0.00245 (0.00408)
democ	0.0146* (0.00825)	0.0146* (0.00824)	0.0153* (0.00842)	0.0149* (0.00835)	0.0147* (0.00825)
Constant	1.568 (1.924)	1.570 (1.923)	1.574 (1.922)	1.579 (1.921)	1.582 (1.925)
Observations	3,420	3,420	3,420	3,420	3,420
R-squared	0.029	0.029	0.029	0.029	0.029
Number of ccode	145	145	145	145	145

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Regarding the result, as seen on the result above, on the pooled OLS method, election is seen to not have a significant effect on FDI. The fixed effect

result of this regression shows a similar result with the pooled OLS. Election are seen to have an insignificant effect on FDI, under the condition where there's election alone or one of the violence measure is present. Although elections are expected to have a significant effect on FDI, there are several strong arguments of why election does not have a significant effect on FDI.

First of all, this regression encompasses 145 countries across the globe; aligning from the Sub Saharan Africa to the countries that lies in the coast of Caribbean, and even the countries in Asia. Those countries have various political system, demographic factors, and surely different political dynamics. Thus, the result shows a wide range of variations of economies and does not encompass each of the countries' specific characteristics. For example, the country of Denmark's politics relies within the framework of parliamentary representative democracy, a constitutional monarchy and a decentralised unitary state in which the Queen of Denmark; Queen Margarethe II is the head of state. Thus, there is no in leadership until the certain circumstances where the succession of the Queen will take the throne. However, the queen does not have a political power. The leader of the government is the Prime Minister. The election in Denmark take place to elect the 179 members of Folketing or the national parliament. Regarding the prime minister, the respective position is formally appointed by the monarch and is determined by his/her support in the Folketing. Another example, the country of Afghanistan is led by a president. This country has a system of unitary presidential Islamic Republic that has a president as a head of state and the commander in chief of their armed forces. These two examples clearly contrasts country-specific characteristics

that relies within their political realm. In this research, we encompass 153 countries that surely will lead to a wide range of country-specific characteristics that may lead to an insignificant result in the regression.

Besides election, table above shows a result of regression to see the effect of electoral violence on FDI. This encompasses NELDA15, NELDA29, NELDA31, and NELDA33. The results of the pooled OLS and fixed effect shows an insignificant effect on FDI, except the NELDA33 denoted by violence33. According to the United Nations Office for West Africa and the Sahel, electoral violence is a variant of political violence that disrupts elections and it occurs more frequently in a countries with political instability, civil war, or coup. Moreover, according to another research by Mamunur, Looi and Wong (2017) on the Journal of Finacial Economic Policy volume 9 found that political stability positively impacted FDI inflows in which electoral violence may reflects political instability in a country, thus, the effect of it toward election might be negative. This is also in line with the findings of Gossel (2020) that stated further than the event of election, FDI inflows are deterred by behavioural unfairness in elections; which in our case is reflected by NELDA15 and NELDA33, as well as post-election violence; reflected by NELDA29 and NELDA31. However, in other cases, any change in leadership; despite having a violent event or not, might lead to a positive effect on FDI inflow. According to Ye (2014), a change in leadership may lead to new networks across the globe, which would be beneficial on investors. However, cases varies among countries and leaderships that takes place, also due to the face of different dynamics of politics across the globe, thus the result might not reflect the

overall picture of how elections affects FDI across the globe. A more detailed explanation regarding the result of each of the measures in the pooled OLS and fixed effect are as below:

NELDA15 on FDI

The table above shows the pooled OLS and fixed effect regression of an electoral violence measure on FDI, which is specifically dummy violence15 or NELDA15 whereas it indicates whether or not there is evidence that government harass the opposition. The pooled OLS and fixed effect result shows an insignificant effect. According to the NELDA version 5 codebook, this electoral violence includes harassing in by detaining opposition leaders, disrupting opposition political rallies with state forces, and shutting down opposition medias. An example of the following electoral violence was in Malaysia on the legislative election in 1999. During that election, the government monitors the opposition's speeches which then they use to charge lawsuit against the opposition for slander. Another example was in Philipines on the 2001 election. The former president at that time, President Estrada and his son was charged and arrested when they challenged President Arroyo's legitimacy in the media. Gossel (2020) categorized violence15 as a trype of behavioural unfairness. When NELDA15 occurs, which is when government harass the opposition and shows behavioural unfairness, it might have a positive effect on FDI because behavioural unfairness affects voters'

preference and behaviour as well. Based on the result by Gossel (2020), behavioural unfairness has a negative effect towards FDI.

NELDA29 on FDI

The table above shows the result of dummy violence²⁹ or NELDA29 which indicates the occurrence of protests after election. The riots and protest that is explained by NELDA29 is regarding the handling or outcome of the election. The result is insignificant in any levels, although negative in pooled OLS and positive in Fixed Effect. An example of real event across the globe is that this type of electoral violence happened in Philippines on 2004. At that time, demonstrators protest regarding the handling of the election. The result is in line with one of the results by Gossel (2020) which implies that post-election violence does not show any significant effect on FDI because by then when the event occurs, leaders have been chosen whether it is the incumbent or opposition.

NELDA31 on FDI

Next, we are taking a look into the dummy violence³¹ or NELDA31, which indicates whether or not the government uses violent acts on demonstrators when there was a protest after the election. The result does not show significance in any level at both pooled OLS and fixed effect. An example of event that was present

across the globe was the case of Guatemala on 1982. Protests were marked by violent clashes with police officers of Guatemala. At that time, the election held the victory of the government. However, according to the digitalized version of The New York Times Article on 10 March, 1982, the three opponents demanded that the election must be annulled and they called upon mass supporters. This was an illegal action that the Government warned prior to the event. The clash between protestors and police reflects the efforts of the government to enforce law and stop the protests. Thus, it argues that this type of violence may not have a negative effect on FDI. Violence acts on demonstrators and protestors could occur due to various factors and reflecting from the case of Guatemala, it is a mean of the government to strictly enforce law. This is in line with the result of Busse and Hefeker (2005) in which ensuring law and order as an indicator of political risk and institutions is one of the determinants that significantly attract FDI.

NELDA33 on FDI

Last but not least is the dummy variable *violence33* which indicates whether or not there is violence involving civilian deaths immediately before, during or after the election. The result shows a negative effect on the fixed effect regression although it does not reflect significance in any level. This event of *NELDA33* happened previously on 1993 in Cambodia. The Khmer Rouge during the event murdered members of the rival political parties and marred the election campaign. The action mentioned reflects authoritarian behaviour. According to Biglaiser and

Staats (2015), political institutions under democracy that contributes in the rule of law are crucial in ensuring and supporting investment attractiveness.

4.2.2 Elections and Electoral Violence on FDI by Two-Step System

GMM

Table 5 - Result of GMM Method

VARIABLES	fdigdp	fdigdp	fdigdp	fdigdp	fdigdp
L.fdigdp	0.587***	0.585***	0.585***	0.587***	0.586***
	-0.075	-0.075	-0.075	-0.075	-0.076
election	-0.159	-0.114	-0.148	-0.152	-0.045
	-0.149	-0.167	-0.153	-0.14	-0.176
violence15		-0.193			
		-0.242			
violence29			0.032		
			-0.325		
violence31				-0.086	
				-0.513	
violence33					-0.398*
					-0.237
trade	0.021***	0.021***	0.021***	0.021***	0.021***
	-0.006	-0.006	-0.006	-0.005	-0.006
hp_loggdp	-1.656*	-1.835**	-1.700**	-1.4	-1.664**
	-0.865	-0.912	-0.857	-0.867	-0.786
inflation	-0.004**	-0.004**	-0.004**	-0.003**	-0.004**
	-0.002	-0.002	-0.002	-0.002	-0.002
democr	0.189	0.187	0.192	0.174	0.194
	-0.178	-0.182	-0.175	-0.174	-0.186

Constant	-0.212	-0.231	-0.237	-0.208	-0.208
	-0.28	-0.285	-0.285	-0.279	-0.283
Observations	3,435	3,435	3,435	3,435	3,435
Number of					
ccode	145	145	145	145	145
ar1p	0.0934	0.0942	0.0941	0.0933	0.0938
ar2p	0.157	0.156	0.156	0.157	0.156
hansenp	0.185	0.179	0.184	0.236	0.233
sarganp	0.000	0.000	0.000	0.000	0.000

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.10

The table above shows the result of the two-steps system generalized method of moment (GMM) of the effect of elections and electoral violence towards FDI. The result of the two step system GMM shows a fulfilment of all of the assumptions that needs to be fulfilled. First of all, our lagged dependent variable shows a significance, *ceteris paribus*. Next, our one of the tests between Hansen and Sargan test; which is the Sargan test shows significance which indicates that all instruments are valid. Moreover, our AR (1) shows significance which indicates that there is a 1st order serial correlation, which is expected due to the lagged dependent term. Furthermore, our AR (2) does not show significance, which is expected as well, in which it indicates that there is no 2nd order serial correlation.

Regarding election dummy, the result shows that election does not have a significant effect towards FDI. However, the sign shows a negative effect, although not significant. This result is in line with the findings of previous literatures in which elections are related to the presence of policy and political uncertainty.

Regarding electoral violence; violence15, violence31 and violence29 does not show a significant effect towards FDI. However, violence 33 shows a negative significant effect towards FDI. Nevertheless, the control variables show significance towards FDI.

Based on the GMM result, amongst the variable of interest, violence that shows a negative significant effect towards FDI is violence33 which indicates whether or not there is violence involving civilian deaths immediately before, during or after the election. The result shows a negative significant effect based on the GMM. This event of NELDA33 happened previously on 1993 in Cambodia regarding the event that involved The Khmer Rouge as mentioned before. This type of violence has a negative significant effect towards FDI as a result of the GMM regression. This type of post-electoral violence, according to Gossel (2020), international observations on elections is associated with post-electoral violence as it exposes a perceptual unfairness in the government. Moreover, violence33 involves civilian deaths. This might as well create another negative perception from the international community, and this view might not be attractive towards investors.

4.2.3 Elections and Electoral Violence on FDI in Democratic Countries by Two Step System GMM

VARIABLES	fdigdp	fdigdp	fdigdp	fdigdp	fdigdp
L.fdigdp	0.516***	0.516***	0.517***	0.516***	0.516***
	-0.051	-0.052	-0.051	-0.051	-0.052
election	-0.217	-0.215	-0.22	-0.217	-0.1
	-0.204	-0.206	-0.208	-0.196	-0.22
violence15		-0.082			
		-0.5			
violence29			-0.061		
			-0.508		
violence31				-0.345	
				-1.005	
violence33					-0.618*
					-0.318
trade	0.031***	0.031***	0.031***	0.031***	0.030***
	-0.006	-0.006	-0.006	-0.006	-0.006
hp_loggdp	0.84	0.784	0.806	0.846	0.818
	-1.346	-1.229	-1.359	-1.359	-1.364
inflation	-0.005	-0.005	-0.005	-0.005	-0.005*
	-0.003	-0.003	-0.003	-0.003	-0.003
democr	-3.686	-3.738	-3.664	-3.684	-3.788
	-4.81	-4.8	-4.784	-4.795	-4.726
Constant	3.292	3.348	3.261	3.292	3.43
	-4.952	-4.935	-4.927	-4.934	-4.865
Observations	2,210	2,210	2,210	2,210	2,210
Number of					
ccode	106	106	106	106	106
ar1p	0.118	0.118	0.118	0.118	0.118
ar2p	0.216	0.216	0.216	0.216	0.214
hansenp	0.22	0.219	0.217	0.226	0.232
sarganp	0	0	0	0	0

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.10

The above table shows the result of the two step system GMM specifically in democratic countries, which is denoted by democratic score of 6 and above based on the democratic index scoring by Polity5 dataset. According to a previous research by Gossel (2020), democracy is positively associated with FDI. Based on the research by Gossel, in a country and region that is democratic or undergo a democratic liberalization like the Sub-Saharan Africa, investors reacts based on the post-electoral environment; whether the result is beneficial or not for them.

The findings by Gossel is in line with the result of our research. With the occurrence of post-electoral violence like violence33, FDI is deterred significantly, shown by the result of the GMM in which violence33 has a significant negative effect on FDI. This is unlike the situation in autocratic or non-democratic countries in which there is a high chance of incumbent in winning the election. Thus, as an example, in executive election in democratic countries, democracy gives a higher policy uncertainty because there is a higher chance of other candidates in winning the election.

CHAPTER 5

CONCLUSIONS AND POLICY RELEVANCE

5.1 Conclusions

Based on the result of this research, there are several points that can be concluded, as follows;

1. Elections does not have a significant effect on FDI in overall 145 countries in the dataset, It is implied that policy uncertainty and the possibility of changes in leadership in the main driver of why elections may have a positive or negative relationship towards FDI. However, this research encompasses various nations with various political systems or regimes, leaderships, and policies. Thus, the result does not show significance and might not reflect the condition in every countries.
2. Electoral violence, when at least one or more of the four measures take place denoted by *neldaviolence*; has an insignificant effect on FDI. Based on the four measures of electoral violence taken into account, according to the fixed effect regression, only *NELDA33* has a significant effect towards FDI.
3. Based on the result of two-steps system GMM, regarding electoral violence, *violence33* has a significantly negative effect towards FDI.
4. In the sub-sample of democratic countries, based on the two-steps system GMM, *violence33* has a significantly negative effect on FDI, in which in

democratic countries, investors are more likely to react based on the post-electoral result because democracy gives higher policy uncertainty.

5.2 Research Limitations

1. This research only focuses on four measures of electoral violence which are hypothetically expected to have a significant negative effect towards FDI. Nevertheless, there are still various measures that can be taken into consideration on further researches.
2. This research encompasses above 100 nations that represents different political systems, regimes, leaderships, economic condition and policies. Thus, the result may not specifically encompass and reflect the condition in all nations.
3. This research focuses on the time length of 30 years of time, in which it might not be long enough to capture the overall political dynamics regarding elections and electoral violence that might affect FDI.

5.3 Policy Relevance

1. Regarding election, there are several policy relevance that takes place. In reality, policy uncertainty and changes of leadership is something that cannot be controlled fully due to the fact that various actors and factors play

a role in it. However, it can be anticipated. Governments and electoral candidates can promote FDI in the period the policy uncertainty and changes in leadership by introducing and implementing an institutional reform and macroeconomic policies in favour of the investors to attract trust of investors despite the political dynamics that takes place.

2. Regarding electoral violence, government can implement strict policies and law and order to mitigate electoral violence. In reference of the existing framework, for instance, the United Nations Department of Political affairs issued a guideline and electoral assistance for countries regarding the prevention and mitigation of electoral violence. A safe and fair election that reflects a high integrity also needs to be ensured as it reflects institutional quality and political stability that plays a role in attracting FDI.

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APPENDIX

Figure 1 - Heteroskedasticity Test

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Modified Wald test for groupwise heteroskedasticity
in fixed effect regression model

H0: sigma(i)^2 = sigma^2 for all i

chi2 (145) = 4.8e+07
Prob>chi2 = 0.0000

```

Table 6 - Testparm i.year Result

1991.year -			
2018.year	=		0
<hr/>			
F(28, 3		43 6) =	12.89
Prob	>	F =	0.0000
<hr/>			

Table 7 - Multicollinearity Test, Correlation Matrix

	fdigdp	election	violence 15	violenc e29	violenc e33	violenc e31	trade	hp_lo ggdp	infl atio n	dem ocr
fdigdp	1.000									
election	-0.009	1.000								
violenc e15	-0.016	0.362	1.000							
violenc e29	-0.001	0.391	0.361	1.000						
violenc e33	-0.037	0.406	0.380	0.512	1.000					
violenc e31	-0.004	0.263	0.347	0.674	0.467	1.000				
trade	0.266	-0.027	-0.020	-0.026	-0.070	-0.022	1.00 0			
hp_log gdp	-0.009	0.040	0.007	0.045	0.026	0.047	0.00 5	1.000		
inflatio n	-0.054	-0.003	0.064	0.036	0.060	0.024	0.12 5	- 0.116	1.0 00	
democr	0.031	0.022	-0.148	-0.039	-0.014	-0.052	0.04 3	0.005	- 0.0 33	1.00 0

Figure 2 - Multicollinearity Test VIF Uncentered

Variable	VIF	1/VIF
Trade	2.6	0.385034
Democr	2.53	0.395833
Violence29	2.23	0.448118
Violence31	1.95	0.513056
Election	1.77	0.610407
Violence33	1.64	0.610407
Violence15	1.37	0.730025
Inflation	1.33	0.749245
Fdigdp L1.	1.26	0.794157
Hp_loggfp	1.01	0.991814
Mean VIF	1.77	

Figure 3 - Unit Root Test Result - LogGDP

Fisher-type unit-root test for loggdp
Based on augmented Dickey-Fuller tests

Ho: All panels contain unit roots
Ha: At least one panel is stationary

Number of panels = 145
Avg. number of periods = 24.69

AR parameter: Panel-specific
Panel means: Included
Time trend: Not included
Drift term: Not included

Asynptotics: T -> Infinity
ADF regressions: 0 lags

	Statistic	p-value
Inverse chi-squared(290) P	266.5120	0.8352
Inverse normal Z	6.5253	1.0000
Inverse logit t(724) L*	5.6776	1.0000
Modified inv. chi-squared Pm	-0.9753	0.8353

P statistic requires number of panels to be finite.
Other statistics are suitable for finite or infinite number of panels.
