THE IMPACT OF TERRORIST ATTACKS ON FOREIGN DIRECT INVESTMENT: EVIDENCE FROM THE MUSLIM WORLD

A Thesis

Submitted to the Master's Study Program of Political Sciences at the Faculty of Social Sciences in partial fulfilment of the requirements for the degree of

Master of Arts (M.A.)

by:

Ghulam Ruchma Algiffary

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UNIVERSITAS ISLAM INTERNASIONAL INDONESIA

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ABSTRACT

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Do terrorist attacks with target variations affect foreign direct investment in the Muslim World? This thesis uses the panel data regression method (time-series and cross-units) with a quantitative approach based on 47 Muslim countries over 20 years to answer the question. The estimation model selected to provide the best prediction results in this research data is the random effect model. This thesis uses Stata 17 software as a panel data processing tool. The prediction result of this thesis is the impact of five variations of terrorist attack targets (business, tourist, government, police, and transportation) on foreign direct investment in the year after the attack. The Muslim World is the object of study because foreign direct investment is the main source of economic prosperity in these countries. The classification of terrorist attack variations is useful to determine the specific impact on foreign direct investment. The hypothesis and rationalization for determining research variables are based on Simon's political risk analysis. Political risk illustrates the classification of terrorist attack variations in affecting foreign investment assets and government. The vulnerability of Muslim countries in the face of political conflict (terrorism) and their dependence on foreign direct investment to support their respective macroeconomies makes this topic a necessary area of study. This thesis found that terrorist attacks on business targets (negative impact), police (negative impact), and government (positive impact) have a significant impact on foreign direct investment in the Muslim World. Meanwhile, terrorist attacks on tourist and transportation targets have no significant impact. Four variables that are the main components of FDI were included in the model to eliminate bias in the statistical calculation (OVB). The four variables are political globalization, political stability, trade openness, and Gross Domestic Product (GDP).

Keyword: *Terrorist Attack, Attack Variations, Foreign Direct Investment, Political Risk, Muslim World.*

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ABBREVIATION DIRECTORY

CEM	: *Common Effect Model*
DID	: *Difference in Differences*
FDI	: *Foreign Direct Investment (inflows % of GDP)*
FEM	: *Fixed Effect Model*
GDP	: *Gross Domestic Product (per-capita constant 2015 $ US)*
GLS	: *Generalized Least Square*
GTD	: *Global Terrorism Database*
GTI	: *Global Terrorist Index*
ISIS	: *Islamic State of Iraq and Syria*
LM	: *Lagrange Multiplier*
MENA	: *Middle East and North Africa*
MMC	: *Muslim Majority Countries*
MNCs	: *Multinational Cooperations*
MNEs	: *Multinational Enterprises*
MW	: *Muslim World*
OECD	: *Organization for Economic Co-operation and Development*
OIC	: *Organization of Islamic Country*
OLS	: *Ordinary Least Square*
OVB	: *Omitted Variable Bias*
PG	: *Political Globalization*
PS	: *Political Stability*
REM	: *Random Effect Model*
SAARC	: *South Asian Association for Regional Cooperation*
TABT	: *Terrorist Attack on Business Target*
TAGT	: *Terrorist Attack on Government Target*
TAPT	: *Terrorist Attack on Police Target*
TATTour	: *Terrorist Attack on Tourism Target*
TATTran	: *Terrorist Attack on Transportation Target*
TRADE	: *Trade Openness % of GDP*
TSCS	: *Time-series and Cross-Section*
UN	: *United Nations*
US	: *United Stated*
VECM	: *Vector Error Correction Model*
VIF	: *Variant Inflation Factor*
WoT	: *War on Terror*
WTC	: *World Trade Center*
WTS	: *World System Theory*

Chapter 1
Introduction

1.1 Background

Foreign direct investment (FDI) is a major element in the macroeconomics of countries, especially Muslim countries (Moniruzzaman, 2010). Governments will make strategic and tactical efforts through policy-making and bilateral cooperation responding to direct and indirect factors that affect the circulation of foreign investment in the country. This is the government's main agenda to maintain their country's political stability and attract foreign investors to provide cooperation and benefits (Lee, 2017).

Governments seek to maintain political stability to attract foreign investors. A country's security conditions (such as cases of terrorist attacks) and political situation affect the amount of FDI coming in. However, terrorist attacks are one of the most important factors that can affect foreign investors' interests and foreign cooperation (Ali et al., 2021).

FDI in this study is a variable that has a direct relationship with several other major factors in the macroeconomic realm of each country. Macroeconomics is the productivity to sustain a country's political stability, security development, improvement of the government system, bilateral and multilateral cooperation between world countries, increasing a country's income, and establishing long-short term links to international markets (Caves, 1996; Borensztein, 1998). Many previous researchers (Arif et al., 2021; Powers & Choi, 2012; Enders & Sandler, 1996) with a local focus on politics, government policies, economics, and international relations have examined the impact of terrorist attacks on FDI. However, this thesis seeks to find the updates and gaps through examining the variations in the targets of terrorist attacks, which have rarely been the main focus of the discourse on the relationship between terrorist attacks and FDI.

FDI is a key factor in a country's economic development (Mahmoudi, 2021). This is because foreign investment has an influence not only on the economy, but also on government policies. The government's goal is to decide how FDI can enter the country in a stable and increasing manner. This is especially the case for developing countries or those dependent on external assistance and economic activity (Lower-middle and lower-income).

This situation occurs because developing countries are not yet capable of economic independence and still require income from foreign investment. Almost all Islamic countries, where the majority of the population are Muslim or who are part of the Organization of Islamic Cooperation (OIC), are countries categorized as developing countries. FDI has had a significant influence on domestic and global economic growth

since 1960, with almost all countries in the world needing foreign investment to support sources of income to increase the pace of development in their countries (Lee, 2017).

The discourse surrounding FDI became increasingly interesting in the aftermath of the 9/11 terrorist attacks on the Global World Trade Center in the United States in 2001. The attack directly targeted the country's main business assets (world-scale assets). This attack was claimed by an international network of Islamic terrorist groups under the banner of Al-Qaeda, spanning several Muslim countries. Therefore, this phenomenon is an interesting case to find out how terrorist attacks, or the different targets of attacks, in Muslim-majority countries impact them; FDI in the context of this study.

A number of Muslim countries have the highest terrorism index in the world – most dangerous-level 10, meaning they are prone to terrorist attacks (Global Terrorist Index, 2023). The data show obstacles to the entry of foreign investment capital as a result of the causality effect of terrorism cases on FDI. Thus, political instability in a Muslim country becomes a determinant factor inhibiting FDI. Countries that face these barriers are primarily found within the Middle East and North Africa (MENA; categorization based on World Bank). The obstacle is due to the high level of Islamic radicalism in these countries with the aim of terrorism. Radicalization has become a trend, especially in areas where immigrants are displaced (Walanda, 2019).

Research by Siekman (2003) and Bandyopadhyay et al., (2014) shows that developed countries will more easily solve problems in the FDI sector following terrorist attacks. However, their research was only conducted in 78 developed and developing countries without categorizing Muslim-majority countries. In this context, some countries that focus of the study are not Muslim-majority countries, so as not to stereotype terrorism in these countries.

This thesis assumes that the relationship between terrorist attacks and FDI will have different results in Muslim countries. The assumption arises because following the 9/11 tragedy, the US changed its agitation-propaganda campaign regarding the war on terror into a war on Islam (tendentious toward some Muslim countries). The US agitation cultivates the belief that the number of terrorist cases in Muslim-majority countries will be greater than that in non-Muslim-majority countries. Therefore, this thesis classifies and selects 47 units of Muslim countries as research subjects.

To strengthen the assumption of this thesis, the selection of data related to terrorist attack variations and analysis based on political risk theory by Simon (1984) is also used as a new model in panel data research discourse between terrorist attacks and FDI. This thesis uses five variations of terrorist attacks to see correlations in the Muslim World. The

classification is important to know the specificity of the impact so that the government can make more robust and absolute economic defense policies to overcome terrorist attacks. Eminue and Ufomba (2011) state that categorizing attacks based on targets is the most important step in measuring the impact of terrorist attacks on the government. The allows trends or patterns in the attacks and the purpose of the terrorist target to become visible. The overall goal of an attack is to weaken the government, which part of the government do the terrorists structurally want to weaken?

Based on this framework, this thesis examines the correlation between five variations of terrorist attacks as independent variables and FDI as a dependent variable in 47 Muslim countries over 20 years, with an observation sample gained through secondary data collection. Four determinant variables of FDI are also included in the model for omitted variable bias or OVB (Chamberlain, 1978). The results of the model in this thesis found that three of five variations of terrorist attacks have a significant effect on FDI. Terrorist attack by a business and police as targets have a significant negative impact and terrorist attack by government as a target has positive impact on FDI in the Muslim World.

1.2 Problem Statement and Research Gap

Along with the development of technology and data collection tools, terrorist attack variables have more specific classifications related to attack variations, motives, targets, and attack methods. Research related to the topic of the effect of terrorist attacks on a country's economy, including foreign investment, has become a global topic and common discourse, especially since 2002 after 9/11.

However, this thesis finds gaps among previous studies in this political economy discourse (Lee, 2017; Powers & Choi, 2012; Chen & Noriega, 2004; Enders & Sandler, 1996). Scholars on this topic always focus on the "general attack" (Terrorist attack accumulation or Terrorist Attack Index) on FDI. Meanwhile, terrorists do not attack the government and its assets randomly or for no reason. Instead, terrorists carry out a series of attacks based on rational choice so that terrorists determine the target of the attack based on the goals they want to achieve (Eminue & Ufomba, 2011). The goal is to lose the trust of other countries (including foreign investors) and weaken the various security facets of the government (Lee, 2017).

This thesis analyzes five target-based terrorist attack variables based on the framework by Eminue & Ufomba (2011) and the analysis of political risk theory by Simon (1984). Therefore, the variables were determined by breaking down the primary dataset (Global Terrorist Database; main data provider-Our World in Data; secondhand classification data provider), namely the "database of terrorist attacks". This effort aims to

provide comprehensive research results to analyze how significant these attacks can be on a country's foreign investment fluctuations. The five variations in the targets of terrorist attacks in this thesis research are: businesses, tourist, transportation, government, and police. Such specification is essential to analyze what kind of attack has the most decisive influence to undermine the government or FDI (Eminue & Ufomba, 2011).

Previous studies (Li, 2006; Eldor & Melnick, 2007; Nitsch & Schumacher, 2004; Chen & Noriega, 2004) state that the impact of such attacks will be more significant for countries categorized as Muslim countries, countries with low-income or lower-middle-income economic status, and developing countries. In this case, Riaz Hassan (2012) also stated that the economic and educational class categorizes the state of the Muslim World at the low income and lower-middle income level. The phenomenon of the Muslim World's economy has been under drastic pressure after the emergence of the Global War on Terror. According to Rabasa et al.'s *The Muslim World after 9/11* (2004), the campaign caused Muslim countries to undergo drastic changes, especially in the economic and political sectors.

Based on this gap, this thesis seeks to offer results that can help provide predictions related to the political-economic discourse in the study of the impact of terrorist attacks through targeted attacks on foreign investment in Muslim countries.

1.3 Research Questions

Based on the problem statement and the gaps in previous research, this thesis will discuss the impact of different terrorist targets on FDI with the following research question: Does the target of terrorist attacks influence the fluctuation of foreign direct investment in the Muslim World?

1.4 Objective of Study

This research seeks to find out the effect of variations in terrorist attacks through attack targets on FDI fluctuations in the Muslim World. It will include a study of 47 countries over the course of 20 years, starting in 2002 and continuing through 2021. The compilation of data from cross-section and time-series data aims to see the results of panel data regression and analyze them based on previous studies so that the results of this study can provide a simple prediction of the condition of the Muslim World economy through FDI inflows % of GDP after the different variations in terrorist attacks.

1.5 Significance of Study

The findings and results of this thesis are that there are two variants of terrorist attacks that have a significant impact. First, terrorist attacks on business and police targets have a significant negative impact then terrorist attack on government target has significantly positive impact on FDI in the Muslim World in the year following the attack, with this result found in examples from 2002 through to 2021. It also found two other variables that do not have a significant impact on FDI in the Muslim World. These are terrorist attacks on transportation and tourist targets. Second, it found terrorist attacks on business and police targets have difference flows to effect FDI.

Terrorist attacks on businesses have a direct impact on FDI. This direct impact happens whether it is an internal or external terrorist attack. Moreover, terrorist attacks on police and government have an indirect impact on FDI through internal country. These findings are useful for decisionmakers to consider before make policies to secure FDI and for the security of assets. For the government, the findings of this thesis are helpful for foreign investment security policymakers considering the impact of variations in terrorist attacks, especially in Muslim countries. For scholars, this thesis model can help to design a more solid model in the discourse of terrorist attack variations as political risks to macroeconomic growth, one of which is FDI.

Chapter 2
Theoretical Foundations

2.1 Literature Review

Terrorist attacks have had a direct impact on foreign investment after the 9/11 tragedy at the World Trade Center (WTC) in New York, the United States, on September 11, 2001. Because of 9/11, the US declared a worldwide War on Terrorism (WoT) campaign. Indirectly, Muslim-majority countries were stereotyped as countries with the highest productivity and mobility of terrorists in the world (Brzezinski, 2007; GTD, 2023). The WoT has caused economic conditions in Muslim countries to become unstable due to foreign investors' loss of trust and assets (Rabasa et al., 2004). Foreign investors think that the economic environment for investment is no longer safe, so investors have since chosen to avoid considered terrorist-prone countries.

Based on the WoT campaign, the US conducted a survey study in October 2001 (after 9/11) on the impact of terrorist attacks on the country's economic growth in the export and FDI sectors. The PEW Global Attitudes Projects surveyed 275 influential leaders in 24 countries. Political officials were the primary respondents, consisting of 50% US elites and 50% non-US elites. The results of this survey stated that 38% of elite leaders in the US consider the WoT to be detrimental to FDI and exports. Meanwhile, 12% of elite leaders in the US stated that the WoT helped FDI and exports. Furthermore, a survey of non-US elites showed that 48% of elites thought the WoT hurt FDI and exports, and 22% of elites thought the WoT helped FDI and exports (PEW Research Center, 2001).

The debate on whether terrorist attacks have a negative relationship and impact on FDI is an interesting discourse. Theoretically, terrorist acts have short-term risks, such as changing the investment situation for the worse, raw material losses for the country, worsening the domestic political situation, and increasing killings (Agrawal, 2011; Bezić et al., 2016). Such events weaken the country's security, which causes domestic and international investors to experience a crisis of confidence so that the flow of FDI development in the country decreases. However, the categorization of “terrorists” in the risk assessment of FDI does not only mean Islamic terrorist organizations, but also those involved civil wars, revolution movements, and social unrest, which are included as internal theoretical attacks based on the available database (GTI, 2023).

Acts of terrorism are not just a phenomenon of ideological radicalism, religion, and differences in Islamic principles. Terrorist acts are also not only direct attacks by terrorist groups on the government or direct attacks on investment assets. Social unrest within the host society (local society of the investee) or civil war is also included in the database as

terrorism events that indirectly influence the government or FDI-MNe (GTD, 2024; Simon, 1984). Conflicts within the country can also be classes as terrorism and cause FDI instability. Socio-political unrest can cause a drastic drop in industrial output. This decline in FDI occurs due to international investors' fear of calculating profit and loss. An example of this political-economic phenomenon is Egypt. This kind of terrorist attack puts pressure on the Egyptian government because the social unrest can affect the domestic market turnover and investment in raw materials (Casson, 2013).

Two categorizations, namely terrorist attacks by radical Islamic organizations and terrorist attacks as part of social unrest, civil war, or a revolution movement, often occur in Muslim countries (Hossein, 2005; Hassan, 1992.) Thus, unstable political conditions and the impact of the WoT declaration by the US affected the conditions of the Muslim world in terms of attracting and cooperating with foreign investors. Therefore, this thesis selects Muslim countries as part of the Muslim World to see whether the variety of terrorist attacks strongly influences FDI circulation in the macroeconomy of these countries.

Table 1: Impact of Terrorist Attacks based on Previous Studies

	Terrorist Attacks	
	Increasing	**Decreasing**
Foreign Direct Investment and Multinational Cooperation	-	Target international business and government (Czinkota et al., 2010; Barton, 1993)
		Developing countries are susceptive to terrorism **(**Powers & Choi, 2012; Bandyopadhyay, 2008)
		Muslim countries are susceptive to terrorism (Ukueze et al., 2019; Jawaid dan Mustafa, 2016; Anwar and Mughal, 2013)
		Improving security against terrorist attacks on business targets (Jain & Grosse, 2009; Harvey, 1993)
		Democratic governments vulnerable to terrorist attacks (Koch & Cranmer, 2007).
		Terrorist attack on police (Gibbs, 2018; Gabriel et al., 2007; Alexander, 1978)
		Terrorist attack on transportation (Shvestov & Shvestov, 2019; Jha, 2009)
		Tourism and destinations as a target of terrorist attack (Walters et al., 2018; and Pizam & Smith, 2000)

Source: UIII Thesis Processed, 2024

The classification of terrorist attacks that this thesis examines is necessary to know specifically what kind of terrorist attacks affect a country's FDI (Eminue & Ufomba, 2015)

and whether all types of terrorist attacks affect FDI or not. This idea is based on research that argues that business-related and non-business-related terrorist attacks have different effects. Powers and Choi (2012) conducted a study on 123 developing countries from 1980 to 2008. The results showed that terrorist attacks targeting businesses had a significant impact on the decline of FDI. The attacks were in the form of killing workers and destroying business goods of multinational organizations or companies. Meanwhile, terrorist attacks against non-business-related targets had irrelevant results on the decline of FDI in these countries.

Terrorist attacks against business and government targets have their own pattern of objectives. Some of the objectives of these attacks are to eliminate the trust of foreign industrial companies, to conduct financial robbery to fund terrorism activities, and to make the government a scapegoat so that the relationship between the government and foreign investors becomes bad (Barton, 1993). The government suffers a huge loss because increasing security against terrorist attacks becomes a major concern. The purpose of increased security is to deter terrorists from attacking business targets so that foreign investors maintain their security and trust (Czinkota et al., 2010; Jain & Grosse, 2009). A survey of decision-making multinational corporations (MNCs) stated that 50% agreed to budget antiterrorist attack funds to defend their business assets (Harvey, 1993).

Terrorist attacks are also more prevalent in democratic governments because they make the government focus on foreign policy and relations (Koch & Cranmer, 2007). Meanwhile, leftist governments use a system that empowers social classes to achieve collective prosperity so that terrorist attacks or revolution movements rarely occur. Economic and political stability is also affected by terrorist attacks targeting the police because such attacks drastically reduce investors' sense of security through news media related to the attacks (Gabriel et al., 2007; Alexander, 1978). Attacks on police also affect foreign investment in the foreign military cooperation sector (Gibbs, 2018).

Foreign investment through transportation technology cooperation is also a target of terrorist attacks. Attacks on international airports and trains are frequent and directly harm foreign investment assets (Shvetsov & Shvestov, 2019; Jha, 2009). The impact is not only on transportation targets but also on tourist targets. Walters et al. (2019) and Pizam & Smith (2000) state that attacks on tourists and tourist destinations pose a direct threat to a country's macroeconomic fluctuations. This causes real losses to investment in a country’s international tourist, entertainment, and tourism sectors.

One example of a terrorist attack in a developed country was on September 11, 2001, when five major Ford automobile plants in the US were temporarily closed after the

terrorist attacks on the Twin Towers. This phenomenon certainly had an adverse impact on US FDI, but the country was able to overcome the decline in investment quickly, and the country's performance in handling cases of terrorist attacks like this is very different from the way developing countries conduct conflict resolution and economic development (Siekman, 2003).

Developed countries can cope quickly with the impact of terrorist attacks on their FDI. Unlike developing countries that depend on foreign investment to support fluctuations in the economy, these developed countries have many channels to sustain macroeconomic growth (Sandler & Enders, 2008). Investors will continue to invest in developed countries through an open global economy even if a country has a high-level of terrorism conflict (Ukwueze et al, 2019). However, the open economic channels of developing states where terrorism occurs experience terrorism as an obstacle to a country's investment attractiveness (Abadie, 2008).

In developed countries, investors provide initial capital to a country that is affected by acts of terrorism; investors can move their capital from dangerous areas to safe areas so that investors get a guarantee to anticipate the risk of loss and do not need to cancel the cooperation with the investee. Foreign investment assets will remain stable despite unrest caused by terrorism acts or risks. Theoretically, a country's economic growth will increase if it is able to attract more foreign and local investors to invest their capital. If a country has a large market as is the case in developed countries, the economic turnover can continue to accelerate without any disturbances including terrorism (Bouyahiaoui & Hammache, 2017; Hassan, 2017).

Terrorism’s impact on FDI occurs in developing countries and Muslim-majority countries. Countries categorized as Muslim countries or countries that are members of the Muslim World are members of the Organization of Islamic Cooperation (OIC), which functions as the collective voice of the Muslim World (OIC, 2023). Most Islamic countries experience obstacles in economic growth, meaning they experience delays in keeping up with the flow of world modernization (Hassan, 2012). This is caused by domestic conflicts that lead to unstable political dynamics, such as several cases of political turmoil following terrorism cases. The decline in FDI due to terrorist attacks in the Muslim World has a much worse impact than the impact of terrorism on developed countries (Bandyopadhyay et al., 2008; De Mello, 1997). This phenomenon occurs because almost all Islamic countries are developing countries, so the country's primary income, economic support, and stability in using natural-human resources are based on global investment and international trade (Enders & Sandler, 2005).

The number of terrorism acts in Muslim countries is growing massively. The Global Terrorist Index found that 20 of the countries with the most fatal terrorist attacks, eight countries with the highest impact of terrorism (level 10/10; it was mean very high), and 13 of the 20 highest-ranking global terrorism issues were all Muslim-majority countries (Vision of Humanity, 2023). The data has been justified by the US declaration of the WoT that the Muslim World is vulnerable in the face of terrorist mobility and activities.

Some examples of the increase in terrorist activities in the Muslim World are terrorist attacks affecting FDI in Pakistan, with the negative effect mapped through time series analysis from 2003 to 2013 (Anwar & Mughal, 2013). Then, acts of terrorism by the radical Muslim Brotherhood, or the Maitatsine Islamic Radical Group, led by Sheikh Ibrahim El-Zakzaky and several other Islamic terrorist organizations and acts have led to a significant decline in FDI in Nigeria (Alao, 2013). Nigeria in 1990 had the highest FDI. However, Nigeria experienced a drastic decline in FDI in the 2000s after the Islamic terrorist attacks orchestrated by Boko Haram, or the Nigerian Taliban, and several other random terror attacks until 2015 (Ukwueze et al., 2019).

These terrorist attacks greatly affected investors' consideration of the economic environment of the respective Muslim countries. This is stated by research on the decline in FDI in Pakistan after terrorist attacks from 2000 to 2011 using the OLS panel data regression (Shahbaz et al., 2013). Gupta also examined the impact of terrorist attacks by classifying them based on the incomes of several countries. They divided countries into two groupings, namely countries with low income and countries with high income. This study found that terrorist attacks had a significant negative impact on a country's economic growth because the higher the number of terrorist attacks, the higher the cost of securing the country (Gupta et al., 2007).

These results are reinforced by Bloomberg's findings that terrorist attacks will have a more pronounced negative impact on developing countries such as the Organization for Economic Co-operation and Development (OECD), which comprises 38 countries, than developed countries (Blomberg et al., 2004). This study uses a sample of 177 countries from 1968 to 2000. This phenomenon is consistent with the finding that FDI development is hampered by terrorism in 78 developing countries, as shown in panel data from 1984 to 2008 (Bandyopadhyay et al., 2008).

Specific research related to terrorist attacks on FDI in 43 Muslim countries has shown significant negative results with a time frame of 1990 to 2014 (Jawaid and Mustafa, 2016). However, previous studies have consistently used the overall accumulated data of terrorist attacks to see the relationship to FDI. Therefore, this thesis tries to use a variation

of data based on the target of the attacks and whether they have differing impacts on FDI in Muslim countries.

2.2 Theoretical Framework

Political phenomena related to acts of terrorism attacks are facts and tragedies that become a core point for anticipation by the state. Foreign investors are very careful in considering the benefits and security of their assets in the recipient country of investment. In general, investors also avoid investing in countries with high cases of terrorist attacks.

Various types of political risks that foreign investors avoid are the risk of violence, transfer risks, and takeover risks. The forms that often occur are political risks and violence. These factors are important because it makes foreign investors afraid and avoid cooperation with countries that have political instability in the form of violence (Jensen & Young, 2008; Jensen, 2008).

Rice & Zegart believe that one of the 10 political risks that adversely affect state assets, lead to violence, and riots, thus having a significant impact on a country's politics and economy, is terrorist attacks (Rice & Zegart, 2018). An example is the the case of Pakistan (Ali, 2010; Ali & Asghar, 2015; Rasheed, 2012), where the impact of terror attacks on FDI has affected the long-term relationships between Pakistan and other countries (Hashmat, 2017).

Terrorism, social unrest, demonstrations, and civil war are all examples of violent political risks that prevent FDI from entering. For example, countries that have domestic conflicts, such as Chad, Burundi, and Congo, experience high political risks to their economies (Jensen, 2008). These three countries experiencing conflict are among the lowest-rated countries for ease of economic growth through business (Schneider & Frey, 1985; Nigh, 1986; Asiedu, 2006; Li, 2006). In terms of violence-related political phenomena, the most frequent form in each country is terrorism (Bloomberg, 2005).

Political and financial risks caused by regional and international terrorist events have caused a significant negative impact on FDI in various countries (Enders, 1996; Madrazo, 2009; Daniele & Marani, 2011) with short-term (Enders, 2006) and long-term risk calculations. A country’s FDI is measured by the sum of equity capital, reinvestment of income, other long-term capital, and short-term capital as in the balance of payments, (World Bank 1, 2018).

However, foreign investors do not arbitrarily choose a country to invest in. Favorable economic dynamics are a common consideration in choosing who to cooperate with (Shapiro, 2004).

Simon's political risk theory is used as the basis of the analysis of this research topic to see whether the FDI of a country can survive the impact of the political risk of the various terrorist targets. Political risk theory anticipates international businesses, including multinational enterprises (MNEs), which are the main actors in transactional FDI activities (Simon, 1984).

Substantively, this theory discusses how international business and foreign investment can survive in a country by minimizing the various political risks within the recipient country of investment through substantial political assessments, thus creating a good and safe economic environment to attract the trust of foreign companies. As Condoleezza Rice has written, acts of terrorism are one of the main factors of international business security and foreign investment, and they involve how governments can anticipate things through security policy making, maintaining political stability, and open economic trade (Rice & Zegart, 2018).

The theoretical framework focuses on the analysis of what kind of country selection (regional categorization), the selection of time to be analyzed, and the political conditions and economic business circulation, as depicted by LaPalombara in 1982. As the author describes in the problem statement and literature review, based on LaPalombara's analytical framework, the selection of Muslim countries is a unit of analysis that has more or less the same characteristics in their the economic, political, and educational situation, as Riaz Hassan (2012) found in his research results related to the economic class division and characteristics of Muslim countries. The basic logic of the division of regions or countries in political economy research is also based on the logical manifesto of Immanuel Wallerstein's World System Theory (WST). This paradigm divides the characteristics of each country so that the research can have a tight scientific justification for the selection of countries that make up the unit of analysis (Chirot & Hall, 1982).

The political risk framework by Simon is also based on the 1980 Gladwin-Walter model. This model focuses on the conflict management of nine main risk or conflict factors (terrorism, politics, human rights, economics/finance and technology, environment, labor relations marketing, and questionable payments) by the investment host country and its society that are considered by MNCs, the main actors on FDI. The model shows how the state or government regulates the flow of FDI from these actors in order to avoid risks such as terrorist attacks on foreign assets (Gladwin & Walter, 1980). This model is itself a development of Kenneth W. Thomas's Conflict Management formulated in 1976.

Based on the formula, Simon classifies 25 different types of political risk into four localized sets of risk flow focuses. The author tries to specify the use of political risk theory

in the research so that the research discourse on theoretical attacks on foreign investment will be categorized into three political risk streams.

The author tries to illustrate the application of Simon's theoretical framework and flow of risk into the research variables of this thesis:

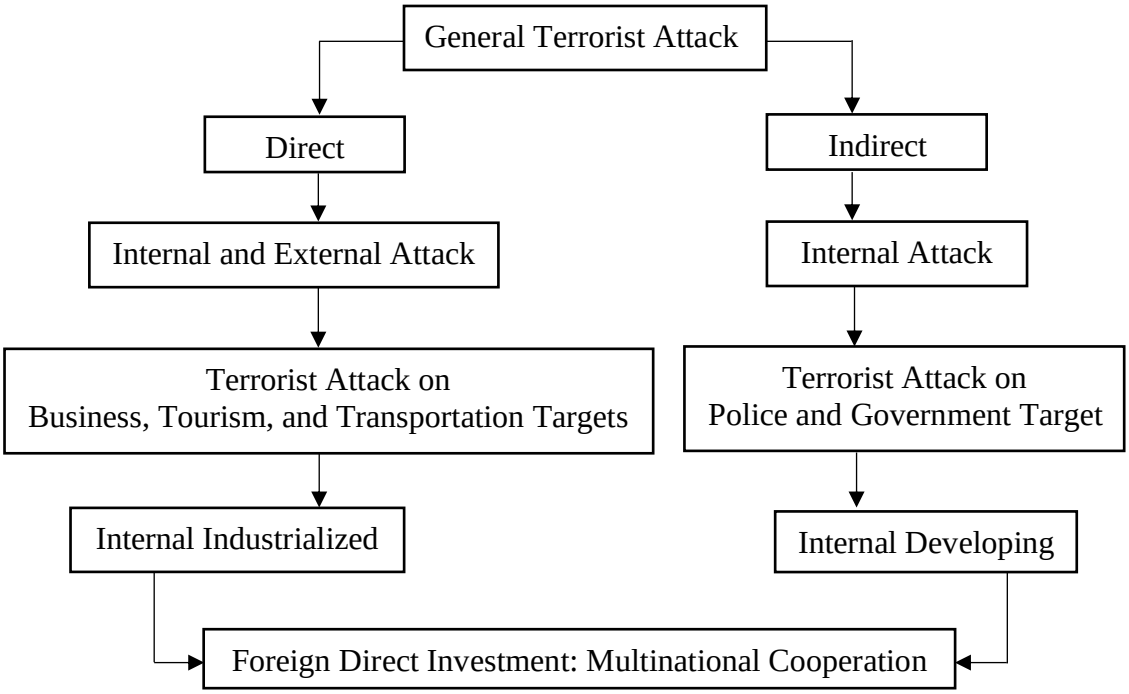

Figure 1 Flow of risk
Source: UIII Thesis Processed, 2024

First, the terrorist attack risk type is included in the direct-internal risk stream with the specification that the attack originates from domestic terrorists (host government) on FDI assets (MNE), which means that the terrorist attack is a threat that has arisen from the domestic society (conflict originates from the recipient country of investment) and impacts or attacks foreign investment assets. Some examples of these are terrorist attacks, boycotts by the working class, public demonstrations against the government, and attacks to build public opinion. The second category is direct-external risk, where the terrorist attack originates from international terrorist networks or organizations (international activist groups) against FDI assets (MNEs).

This type indicates that the flow of terrorist attacks against FDI is through attacks from outside the country or attacks from international terrorist networks. Third, the risk of civil war is included as an indirect internal risk with the attack originating from domestic terrorists (host society) who attack the local government (host government). Then, the impact of the attack is that the government has a negative effect on FDI (MNE) either through political economy policy decisions or termination of cooperation with foreign

investors. Some examples this risk are terrorist events due to civil war, guerrilla warfare, demonstrations or protests from the public, and resistance movements against anti-business politicians.

Why does this thesis need to consider the impact of terrorist attacks through direct and indirect attack targets? This specification is necessary to make it easier for the researcher and the reader to understand the flow and impact of the attacks according to Simon's theoretical framework. The difference between the two types of direct and indirect attacks are the victims of the attacks. Direct attacks have a real impact on various components of foreign investment assets, such as business buildings and the lives of employees or officials of investment companies. Whereas the impact of indirect attacks is to affect the host country's bargaining power, loss of investor confidence due to insecurity or harm, with government policies that are not supportive of investors, and expensive components to channel foreign investment (Barth et al., 2006; Spich & Grosse, 2005).

2.3 Hypothesis

This thesis argues, based on literature studies (Ukueze et al., 2019; Jawaid & Mustafa, 2016; Anwar & Mughal, 2013; Powers & Choi, 2012; Czinkota et al., 2010; Bandyopadhyay, 2008; Barton, 1993), that terrorism negatively affects FDI growth. Terrorist attacks have a negative influence on the development of FDI because some terrorist cases directly attack businesses related to foreign investment. Based on the Global Terrorist Dataset, Global Terrorist Index, and Our World in Data, the highest number of terrorism cases occur in Muslim-majority countries. Terrorist attacks are also included as a form of violence that causes foreign investors to be reluctant to provide investment cooperation.

This study uses political risk theory (Simon, 1984) to analyze the impact of terrorism on foreign investment (Jensen et al. l, 2008; Jensen, 2008; Rice & Zegart, 2018). According to Simon, political theory has four risk streams: direct-internal, direct-external, indirect-internal, and indirect-external. Then, terrorist attacks in political risk theory (type of risk) fall into the direct-internal categorization that the author will use in this research. Simon also develops a political risk framework, which states that terrorists are included as internal-direct. The logic of the discussion uses rational choice theory to strengthen the analysis of political risk on FDI (Anderton & Carter, 2005). This is also reinforced in the research through empirical investigation of the effect of terrorism on FDI (Polyxeni & Theodore, 2019), in which several developing countries use rational choice theory to analyze the influence between the two variables.

Therefore, this thesis assumes that the choice of target will lead to different effects on FDI, using regression testing of the terrorist attack index in the general research on this topic. The expected effects of all variations are negative effect based on previous studies, featured in the literature review table. Therefore, I formulate the following hypothesis:

Null Hypothesis	Alternative Hypothesis	Expected Sign
There is no significant relationship between TABT on FDI	There is significant relationship between TABT on FDI	-
There is no significant relationship between TATTour on FDI	There is significant relationship between TATTour on FDI	-
There is no significant relationship between TATTran on FDI	There is significant relationship between TATTran on FDI	-
There is no significant relationship between TAGT on FDI	There is significant relationship between TAGT on FDI	-
There is no significant relationship between TAPT on FDI	There is significant relationship between TAPT on FDI	-

Figure 2 Hypothesis

Source: UIII Thesis Processed, 2024

Based on the variable table, this thesis uses abbreviations or labels for the variables so that the analysis is simpler. The abbreviations are as follows: Terrorist Attack on Business Target (TABT), Terrorist Attack on Tourist Target (TATTour), Terrorist Attack on Transportation Target (TATTran), Terrorist Attack on Police Target (TAPT), Terrorist Attack on Government Target (TAGT), Gross Domestic Product (GDP), Trade Openness (TRADE), Political Globalization (PG), Political Stability (PS), and Foreign Direct Investment (FDI). Abbreviations of variable names are helpful to facilitate data analysis and simplify words during the discussion of this thesis.

Table 2 Variables

Condition of Muslim World: 47 Countries (Cross-Section), 20 years; (2002-2021, Time-Series)		
Independent Variables	**Determinant of FDI**	**Dependent Variable**
Terrorist Attack on Business Target	a. Gross Domestic Product b.Trade Openness c.Political Globalization e.Political Stability	Foreign Direct Investment
Terrorist Attack on Tourist Target		
Terrorist Attack on Transportation Target		
Terrorist Attack on Police Target		
Terrorist Attack on Government Target		

Source: UIII Thesis Processed, 2024

Chapter 3
Research Design

3.1 Type of Research

This thesis uses the panel data regression method using data from 47 Muslim countries as the research unit and uses a time series of 20 years of recorded data from 2002 to 2021. Then, panel regression analysis uses a Time-Series Cross-Section (TSCS) to determine the relationship between variations in theoretical attacks through targets on FDI in 47 countries.

TSCS is a component of panel data regression research that uses large N and many T. Panel data regression is also commonly referred to as longitudinal, but it has three variations, namely time series (Small N - Large T), Pooled Cross Sections (Large N with the same research subjects but using different time variations), and panel data which uses many research subjects along with time series variations (McManus, 2015).

The thesis will study the impact of one variable on another, as well as how changes affect the relationship between two variables. Correlational Research is conducted to develop the relationship between two entities and to determine how one entity affects the other, as well as the changes that will occur later. This thesis method is used to process information about relationships that occur and requires a minimum of two different variables for this quantitative research method to function. Without considering many aspects, the relationship between two groups or entities must be maintained.

3.2 Research Approach

Based on the research topic and the variables selected to conduct this research, the author uses a quantitative approach to obtain predictive results and descriptions systematically through verified data so that the research results produce a model related to variations in terrorist attacks and their impact on foreign investment. This approach has several holdings, such as determining variables, research assumptions, and hypotheses, that are academically arranged based on problematization, argumentation, theory, and previous research findings (Rukajat, 2018).

The quantitative approach means the broad phenomena can be ranked into a picture that is easy to understand, developed through various mandatory stages such as testing classical assumptions alongside several other tests according to the needs of the data being studied (Henning & Hedtrich, 2018). This study uses a quantitative panel approach because

this approach is suitable for analyzing the growth of FDI, which is one of the main factors of a country's economic growth (Tiwari & Mutascu, 2011).

3.3 Data Collecting and Data Source

The data used or collected in this research is secondary data.

Secondary data must be based on systematic design through methods and based on empirical data that has been processed so that the data can be freely evaluated or developed with other research methods (Johnston, 2014). The use of secondary data must also involve or be based on the appropriate theoretical framework, match the substance of the research with the data, have support arguments to design hypotheses, and the sustainability of the subjects and objects being researched based on appropriate data (Dale et al., 2008).

The author also conducted selection and verification to obtain the most compatible and reliable data to be included in the regression model. The author obtained data related to terrorist attacks, foreign investment, and its variable determinant data by filtering several world database channels and matching this data with that of other portals based on the same main dataset. This thesis collected data from official datasets and databases such as the World Bank, World Development Indicator, Global Terrorist Database, Global Terrorist Index, Our World in Data, and Kind of Terrorist Attack.

3.4 Subject and Object Research

A research subject is a unit that will be analyzed based on the researcher's assumptions or hypotheses by combining several other units and seeing the effect between the collection of research subjects and the time series. The indicator of interesting research is the causal effects that appear randomly in each research unit so that they be used in a combined study to see what kind of cause and effect is experienced or produced by the research subject (Tacq, 2011).

This thesis collected several subjects, namely 47 countries. Each subject cannot be said to be a population because based on the data source portal, this data is only a sample of each country to see the representation of the whole using standard formulas and calculations. The uniqueness (the impact of terrorist attacks on FDI) that occurs in the Muslim World is the object of this thesis research. The author finds it interesting to examine the relationship between variables in these Muslim-majority countries because such countries have different characteristics, political culture, government conditions, beliefs, and educational strata from other developed countries. This is discussed in later chapters.

3.5 Operational Definition

FDI is cooperation between countries where one country receives capital investment from another, as well as having the authority to carry out managerial work in the short and long term through a company that plays a role in increasing economic growth for the countries and investors (World Bank, 2023). This cooperation should be publicly reported in current US dollar terms in the receipt and disbursement of FDI between countries. Cooperation generates income through investment across national borders (Denisia, 2010).

According to the OECD library, FDI is a great opportunity for a country to become a force in the international economic integration sector, and it also provides stability for policymakers to provide the best strategy to attract foreign investment to their country (OECD, 2008). FDI is one of the main factors in a country's economic growth, which is why foreign investment fluctuations can affect a country's macroeconomy.

Terrorism is the illegal use of force in the form of attacks to achieve political, economic, religious, and social goals, where the perpetrators are non-government elites (GTD, 2023). Acts of terrorism have three main characteristics:

1. They have specific economic, political, or social goals, so as to have a systemic impact on the economy.
2. Acts of terrorism must have several elements, such as intimidation and coercion, and terrorists deliver their messages directly to the public.
3. Acts of violence based on the first and second elements must occur outside of war zones, agendas, and territories because if they occur in areas designated by international law as war zones, they are not considered acts of terrorism.

Terrorism is any act committed to achieve political or religious goals that violate the provisions of the law (Dewi, 2019; Sørensen & Jackson, 2014). At the United Nations Congress in 2000, terrorism was defined as a crime that develops from radicalization (Junaid, 2013). Some examples of terrorist acts are bombings, hostage-taking, armed attacks, and hijackings committed by non-governmental groups or individuals (Our World in Data, 2023). Based on this definition, terrorism attacks are divided into several data categorizations. The classification provides data accuracy according to the type and method of the attack, such as attacks through suicide, random attacks without any intended victims, and well-designed attacks on targets.

The variety of terrorist attacks on targets provides fresh data and categorization to achieve interesting research. The *OurWoldinData.org* dataset portal provides 13 types of terrorism data based on data from the Global Terrorist Index and several other major

terrorism-related database portals. These 13 types of data are the accumulation of total attacks in each country each year, comprising; the incidence of attacks based on the target victim or the purpose of the attack (this is the data that the author uses in this research), attacks by region, the number of attacks based on fatalities, the number of deaths caused by attacks based on special methods, the number of cases of suicide bombing, data on the severity of the attack or direct impact, and the distribution of attacks.

The data based on attacks still has its own specifications that divide the purpose, victims, number of perpetrators or incidents, and how the terrorist attack was carried out. The data that the author uses is on the targets, but this type has variations of attacks such as aborted attacks, attacks on private property, military naval forces, various levels of education, commercial and military aircraft and aviation facilities, various national defenses, and political parties. This variation causes the possibility of high multicollinearity, where each dataset has similarities and similarities, so the determination of variables is very important, which has been explained in the Research Methods sub-chapter.

The Muslim World is a categorization of Muslim majority countries (MMC) with their uniqueness. The term Muslim for most people does not only mean the religion of Islam but also means an Islamic society that has a culture, civilization, and traditions, which affect the interdisciplinary fields of politics, economics, law, educational perspectives, social, and religion (Hassan, 2012). Based on these factors, the MMC or Muslim World has its own challenges that compete with global challenges such as eradicating violence and poverty, modernization, democracy, and globalization. Countries categorized in the Muslim World are members of the OIC. As of 2023, there are 57 countries in the Muslim World (OIC, 2023).

Members of the OIC are Afghanistan, Burkina Faso, Somalia, Mali, Syria, Pakistan, Iraq, Nigeria, Niger, Cameroon, Mozambique, Egyp, Chad, Iran, Yemen, Turkiye, Indonesia, Togo, Benin, Libya, Palestine, Algeria, Tunisia, Bangladesh, Djibouti, Cote D'ivore, Uganda, Tajikistan, Lebanon, Saudi Arabia, Jordan, Uzbekistan, Malaysia, United Arab Emirates, Senegal, Bahrain, Morocco, Mauritania, Azerbaijan, Albania, Turkmenistan, Sudan, Sierra Leone, Oman, Gabon, The Gambia, Guinea, Guyana, Guinea Bissau, Kyrgyz Republic, Qatar, Kazakhstan, Kuwait, Brunei Darussalam, Maldives, Comoros, Suriname. However, only 47 countries are included in this thesis. This is because the data for the remaining countries are not available in the used databases. The 10 countries are Afghanistan, Somalia, Nigeria, Mozambique, Palestine, Djibouti, Oman, Guyana, Maldives, and Suriname.

Table 3 Operational Definition

Variable	Definition	Data
Terrorist Attacks on Business Targets	Attacks on business targets mean any personal, communal, or organizational business that has ties to the country's business efforts on a national scale. The data from these attacks can be against employees or officers of companies where the attack is based on their occupation, such as the mining and petroleum industries. Examples of attacks on business targets are gas stations, hospitals, and bars. A limitation of this variable is that attacks on private property, independent authorities, and community businesses that are not affiliated with businesses are not included in this categorization.	Unit: Attack – Yearly*
Terrorist Attacks on Tourist Targets	These terrorist attacks target human subjects who are travelling, including domestic and foreign visitors.	Unit: Attack – Yearly*
Terrorist Attacks on Transportation Targets	The targets of these terrorist attacks are vehicles and public infrastructure (not private vehicles).	Unit: Attack – Yearly*
Terrorist Attacks on Government Targets	These attacks are declared to inflict pressure and harm on parts of the government. These attacks occur against politicians or government officials, legal practitioners of the government, political movements affiliated with the government, and government buildings.	Unit: Attack – Yearly*
Terrorist Attacks on Police Targets	The target subjects of this attack are members and officials of the state security (police), all police facilities, its central buildings and smallest branches, and prisons.	Unit: Attack – Yearly*
Political Globalization	Political globalization refers to the participation, organizational interaction, and state participation in international forums. This includes the taking of agreements or decisions.	Type: Continuous – Yearly**

Next of Table 3

Variables	Definition	Data
Political Stability	The measurement of opinions on the absence of violence in the country's political sector.	Measure to predict political condition – Yearly***
Gross Domestic Product	This variable is based on an overall calculation of production figures, along with taxes and youth subsidies, divided by the total population. The data follows a constant US dollar value.	GDP per Capita: Constant 2015 US$ - Yearly***
Trade Openness	This variable calculates the official exchange rate based on the country's accumulated income, providing an overview of the country's economy's real condition.	Trade % of GDP- Yearly***
FDI	This variable calculates the net result of the country's economy's business flow originating from foreign investors. The calculated net total is the result of net investment income calculated by the result of net investment expenditure.	Net Inflows % of GDP – Yearly***

Source: UIII Thesis Processed, 2024

Note:

(*) refers to data collected from Our World in Data.

(**) refers to data collected from KoF Globalization.

(***) refers to data collected from World Development Indicator, World Bank.

3.6 Data Analysis

Before conducting the panel data regression, the author took several steps to provide good, compatible results. First, the author double-checked whether the data on each country, year, and variable was available. The author found empty data based on the data verification, so the author used the mean imputation method to fill in the empty data. They did this because empty data (not 0) could risk the analysis results being biased (Donders et al., 2006; Vach, 2012). The author did not include other empty data in the model by removing the unit or time from the whole model in order for the data to be the strongly balanced panel.

The use of time series data in this study also helps to provide a general scale prediction of the flow of analysis in the research discussion as Simon states that political risk analysis in foreign investment will be better when using time series analysis of some

subjects. This statement is based on the principle that investors or foreign countries will always use rational considerations of profit and loss scales based on time series data (not only considering the year the investment was made). Thus, a general scale description of the security conditions of the investment environment will be one of the considerations for forming cooperation between countries related to economic transactions.

This thesis conducted a stationary test on the collected data of each overall variable before the data was entered into the main panel data regression model in this study. After the data passed the stationary test, the author continued testing the estimation model. The selection of the estimation model using the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effects Model (REM) was tested through three estimation methods, namely the Chow Test, Hausman Test, and Lagrange Multiplier, to get the best results on the data that the author had collected along with the theoretical design (Widarjono, 2007).

All data that this thesis used, are lag 1, meaning all independent variables used are lag -1 years. This is useful to predict all of the independent to dependent variables. Economic logis or causality in economic panel data research is used to do this step. Furthermore, this thesis did lag -1 year because it could not specify when the data on independent variables updated each year. The formula of n-1 is below:

$$Y = \alpha + \beta 0Xt + \beta 1Xt - 1 + \beta 2Xt - 1 + \beta 3Xt - 1 + \beta 41Xt - 1 + \beta 5Xt - 1 + \beta 6Xt - 1 + \beta 7Xt - 1 + \beta 8Xt - 1 + \beta 9Xt - 1 + \mathcal{U}t$$

Based on the test results of the three estimation models, Random Effect is the best model to analyze the data of the research topic. The model approach used is the random effect model, or generalized least square (GLS), which was continued using a classical assumption test. Some of the classical assumption tests that needed to be used in the random effect model are the multicollinearity classical assumption test and the normality classical assumption test (Menke, 2015).

The multicollinearity assumption test was carried out to determine the VIF value of each variable so that researchers can compare the independent variables that the author has selected in this study (Daoud, 2017). The multicollinearity assumption determined whether it had similarities or not. Then, the normality assumption test was carried out to see whether the data distribution is normal.

Chapter 4

Research Findings: Result and Discussion

4.1 Description of Research Objects

This chapter describes the results and process of testing the data to find the best test results and to see the relationship between the independent and dependent variables. This thesis uses a panel data regression method through a REM regression estimation method. This thesis uses cross-section data from 47 countries, taken from OIC member countries. Some OIC countries are not included in this thesis research because data on them are unavailable. Each of the 47 OIC countries in this study uses a 20-year time series to see the correlation after 9/11 on 2000 until 2021 (the most recent data available).

To see impact of independent variables on FDI, this thesis did n-1 (lag 1 years) for all independent variables to see the impact of terrorist attacks on FDI in the year following the attack.

Table 4 Descriptive Statistic

	Obs.	Mean	Std. Dev.	Min	Max
TABT	940	4.879787	26.18342	0	400
TAPT	940	8.826596	47.00691	0	770
TAGT	940	5.101064	23.93587	0	287
TATTran	940	1.510638	7.376162	0	80
TATTour	940	.0957447	.4467168	0	7
Political Globalization	940	61.52993	16.39377	3	93
Political Stability	940	-.6738506	.8881662	-3.180352	.9946502
GDP	940	7123.189	12503.73	8.509	73493.27
Trade Openness	940	71.84687	32.75493	210.3743	4.127549
FDI	940	2.23e+09	4,51e+09	-1.02e+10	3.95e+10

Source: UIII Thesis Processed, 2024

Based on Table 4, it can be seen that the study uses 940 pieces of observational data. The test results in the table above show the minimum, maximum, average, and standard deviation values for each variable. From the results of the data analysis above, it can be described as follows:

1. The TABT variable has a standard deviation value of 26.18342, greater than the mean value of 4.879787. This indicates that the TABT variable is heterogeneous. The maximum and minimum values of the TABT variable are 400 and 0.

2. The mean and standard deviation values of the TATTran variable are 1.510638 and 7.376162. The standard deviation value, which is greater than the mean, indicates that the TATTran variable is heterogeneous. The minimum value is 0, and the maximum value is 80.
3. The GDP variable has an average value and standard deviation of 7123.189 and 12503.73, where the standard deviation value is higher than the average value, indicating that the GDP variable is heterogeneous. The value of average conveys that the GDP has a score of 24.89512. The value of the maximum is 73493.27 and the minimum value is 8.509.
4. The mean and standard deviation values of the FDI variable are 2.23e+09 and 4.51e+09, meaning that the standard deviation value is greater than the mean value and indicates that the FDI variable is heterogeneous. The maximum and minimum values on this variable are 3.95e+10 and -1.02e+10.
5. The PS variable has an average value and standard deviation of -.6679766 and .8881662. In this result, it is known that the standard deviation value is greater than the average value, which means that this variable is heterogeneous. The maximum and minimum values in this variable are .9946502 and -3.180352.
6. The mean and standard deviation values of the PG variable are 61.41448 and 16.39377, meaning that the standard deviation value is smaller than the mean value and indicates that the PG variable is homogeneous. The maximum and minimum values of this variable are 92.71522 and 25.09011.
7. The mean and standard deviation values of the TRADE variable are 71.94943 and 32.72673, meaning that the standard deviation value is smaller than the average value and indicates that the TRADE variable is homogeneous. The maximum and minimum values on this variable are 210.3743 and 9.955145.
8. The mean and standard deviation values on the TAGT variable are 5.291153 and 24.52354, meaning that the standard deviation value is smaller than the average value and indicates that the TAGT variable is homogeneous. The maximum and minimum values on this variable are 287 and 0.
9. The mean and standard deviation values on the TAPT variable are 9.18589 and 48.17428, meaning that the standard deviation value is greater than the mean value and indicates that the TAPT variable is heterogeneous. The maximum and minimum values on this variable are 770 and 0.
10. The mean and standard deviation values on the TATTour variable are .1007839 and .4577796, meaning that the standard deviation value is smaller than the average

value and indicates that the TATTour variable is homogeneous. The maximum and minimum values on this variable are 7 and 0.

From the results of the table, this thesis found that the highest mean value of the terrorist attack variation is the attack on government target of 8.826596. This shows that, on average, most attacks in MMCs target the police. Then, the descriptive statistics show the lowest mean value of the terrorist attack variations, which is attacks on tourism at .0957447. This shows that, on average, the target with the fewest attacks in the Muslim World is transportation.

4.2 Stationary Test

Stationary testing is important to verify data containing time series variation and is related to each observation. Banerjee offers the term "economic equilibrium" through stationary testing (Banerjee et al., 1993). Based on the results of the Levin Lin-Chu test, it was found that there were two non-stationary variables, namely the variable of terrorist attacks targetting transportation and GDP (Levin et al., 2002). The author then conducted stationary testing at the first difference stage, which could solve the problem of the two variables. In a sense, the TATTran and GDP variables have been stationary at the first difference stage. After all the data is stationary, the next test step was to determine the estimate that would be the main model in the panel data regression.

Table 5 Stationary Test

Variable	Probability	Stationary test results at Level
TABT	0,0091	p < 0.05 (Data is stationary at level)
TATTran	**0,9887**	p > 0.05 (Data is not stationary at level)
GDP	**0,7848**	p > 0.05 (Data is not stationary at level)
FDI	0,0054	p < 0.05 (Data is stationary at level)
PS	0,0000	p < 0.05 (Data is stationary at level)
PG	0,0000	p < 0.05 (Data is stationary at level)
TRADE	0,0000	p < 0.05 (Data is stationary at level))
TAGT	0,0002	p < 0.05 Data is stationary at level)

Next of Table 5

TAPT	0,0129	p < 0.05 (Data is stationary at level)
TATTour	0,0000	p < 0.05 (Data is stationary at level)

Source: UIII Thesis Processed, 2024

The results of the stationary test results in Table 5, showed that there were two variables that were not stationary at the level of the GDP variable and the TATTran variable with results exceeding 0.05 (Dickey & Fuller, 1979). Other variables such as TABT, FDI, PS, PG, TRADE, TAGT, GDP, and TATTour resulted in a value of less than 0.005.

Variables that are not stationary at the level TATTran received a result of 0.9939. in the first difference, TATTran is still no stationary with value .7768. TATTran solve for the stationary test in the second difference.

The GDP variable is not stationary at the level with value 0.7848 > 0.05. This thesis used the first difference to solve this variable. The result of GDP at the first difference is 0.000 < 0.05. This means GDP is already fixed through stationary test.

Table 6 Stationary Test First-Second Difference

Variable	**Probability**	**Stationary test results at Level**
TATTran (lag 1)	0.0145 (First Diff)	p < 0.05 (Data stationary at first difference)
GDP (lag 1)	0,0000 (First Diff)	p < 0.05 (Data stationary at first difference)

Source: UIII Thesis Processed, 2024

The table above shows that the TATTran and GDP variables were conducted in the stationary test with the first difference level to correct data that was not stationary at the level presented in Table 6, where the data exceeds the p-value of 0.05.

This thesis is not using the result data from the first and second difference for two variables above (TATTran and GDP) because this thesis already uses lag 1 years for each independent variable (n-1). So, this section shows data for all variables, including two that are not stationary but these are not problem for this research design.

4.3 Selection of Estimation Model

Based on the estimation technique, the panel data regression model can be estimated using three methods, namely Common Effect Model (CEM), Fixed Effect Model (FEM), and

Random Effect Model (REM). These three tests were conducted to select the best estimation model for panel data regression (Widarjono, 2007).

Kind of Estimator Model Test	Testing Result	Choosing Model
Chow Test	Probability > 0,05	H0: Common Effect Model
	Probability < 0,05	H1: Fixed Effect Model
Hausman Test	Probability > 0,05	H0: Random Effect Model
	Probability < 0,05	H1: Fixed Effect Model
Lagrange Multiplier Test	Probability > 0,05	H0: Common Effect Model
	Probability < 0,05	H1: Random Effect Model

Figure 3 Choosing Model

Source: UIII Thesis Processed, 2024

4.3.1 Chow Test

First, the Chow Test was used by looking at the F Restricted to choose the best model between the CEM or FEM model. This test used a hypothesis, namely the null hypothesis is Ordinary Least Square or CEM, where the alternative hypothesis was FEM. The determination was based on comparing the F-statistic of the Fixed Effect Model with the F-table of 0.05. FEM.

$$F = \frac{\frac{SSR\_CEM - SSR\_FEM}{q}}{\frac{SSR\_FEM}{N - K - 2q}}$$

Table 7 Restricted F Test Result

Fixed-Effect (within) regression
Prob > F = 0,0001

Source: UIII Thesis Processed, 2024

The Restricted F test estimation results were used to determine the best estimation method between CEM and FEM by looking at the lowest F probability value in the FEM output results, as listed in Table 7. The results show the Prob > F value of 0.0000 less than α (5%) so that H0 (OLS) is rejected and the best temporary estimation model used is the FEM.

4.3.2 Hausman Test

Next the Hausman Test was carried out to determine the best estimate between the REM and FEM models. The null hypothesis being the REM method, while the alternative model used was FEM. The Hausman Test results, as listed in Table 8, show the probability value> chibar square = 0.9543 of α (5%), so that H0 (REM) is accepted and the best estimation model used is the REM model.

$$H = (\beta_1 REM - \beta_0 FEM)' \Sigma\_\beta_0 FEM\hat{}(-1) (\beta_1 REM - \beta_0 FEM)$$

Table 8 Hausman Test Results

Hausman FEM, REM
Prob > Chi2 = 0,9543

Source: UIII Thesis Processed, 2024

4.3.3 Lagrange Multiplier Test

Then, if the test rejects the FEM model, the Breusch-Pagan Lagrange Multiplier test (LM Test) must be carried out to select the OLS or REM model. Third, the Hausman Test is conducted if the first or second test rejects the OLS model. The Hausman Test is conducted to select the FEM or REM model.

Furthermore, the Lagrange Multiplier Test is carried out to choose between the OLS and REM methods, with the null hypothesis being OLS and the alternative hypothesis being REM. The decision-making criterion is if the F-count is greater than the F-Table (F-count> F-Table), then the Hnull is rejected. In this case, the method used is the REM method. If the significance of the probability chibar square> 0.05 then H1 is accepted and the REM method is used.

$$LM = \frac{N(T-1)}{2} \left(\frac{\sum_{i=1}^{N} \sum_{t=1}^{T} \hat{u}_{it}^2 - T \sum_{i=1}^{N} \bar{\hat{u}}_i^2}{\sum_{i=1}^{N} \sum_{t=1}^{T} \hat{u}_{it}^2} \right)$$

Table 9 Lagrange Multiplier Test

Chibar (01)	2712,03
Prob > Chibar2	0,0000

Source: UIII Thesis Processed, 2024

The Chow Test displays the results under the fixed effect model better than the common effect model for this thesis, and the results of the Lagrange Multiplier Test also show that the REM is better than the CEM in the sense that both reject the OLS model.

4.4 Classic Assumption Test

Classical assumptions are data tests in research to determine the condition of the data used in a study.

4.4.1 Normality Test

A Normality Test is carried out in order to determine whether the regression model has a normal distribution (Ghozali, 2016: 154). The data test results are said to be normal or meet the normality test requirements if the data value exceeds the standard provisions, which means that the value is greater than the significance level of 0.05. A Normality Test is required when the number of observations is less than 30. It is used to determine whether the error term approaches the nominal distribution. If the number of observations exceeds 30, then there is no need to do a Normality Test because the sampling error term distribution is close to normal (Ajija, 2011).

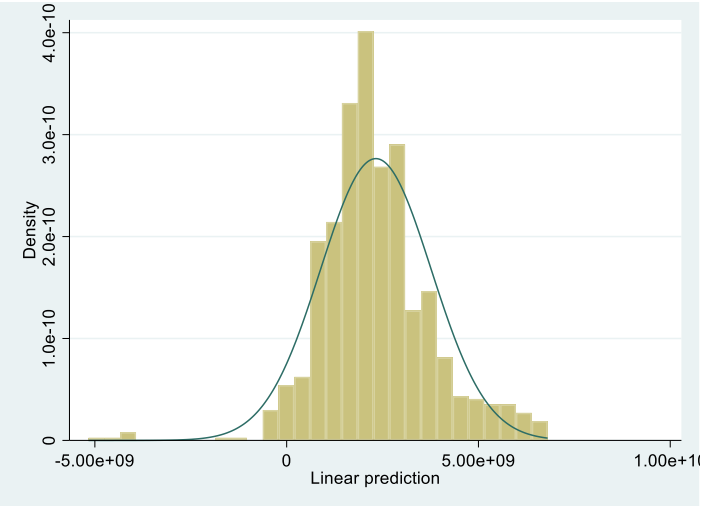

Figure 4 Histogram Normality Test

Source: UIII Thesis Processed, Stata 17, 2024

Based on Figure 4, A Histogram Normality Test functions to see how the data is spread. The results show that the data of this thesis does not pass the Normality Test because the spread of data is not equal. From the histogram, all of the data is gathered on right side, which is the positive side.

Table 10 Results of Normality Test

Variable	Obs	Pr(skewness)	Pr(kurtosis)	Adj chi2(2)	Prob>chi2
resid	893	0.0000	0.0000	132.22	0.0000

Source: UIII Thesis Processed, 2024

Table 10 above shows that the Skewness and Kurtosis results for the Normality Test have a significance value (Prob>chi2) of 0.0000, or smaller than 0.05, so the data distribution does not meet the assumption of normality.

4.4.2 Multicollinearity Test

According to Ghozali (2009; 2018), if the tolerance value is> 0.8, there is correlation (it is just seeing correlation among variables). Table 11 shows the results of Spearman correlation by looking at the correlation value:

Table 11 Spearman Test Results Looking at the Correlation Value

	FDI	TABT	TATTour	TATTran	TAPT	TAGT	GDP	TRADE	PG	PS
FDI	1.000									
TABT	-0.1346	1.0000								
TATTour	0.0312	0.1958	1.0000							
dTATTran	-0.0069	-0.0925	-0.0254	1.0000						
TAPT	-0,0043	0.1749	0.1852	0.1278	1.0000					
TAGT	-0.1014	0.7747	0.2731	0.1132	0.1261	1.0000				
GDP	0.1935	-0.0546	0.0694	-0.0029	0.0035	-0.0012	1.0000			
TRADE	0.1424	-0.0990	-0.0751	0.0170	-0.0839	-0.0836	-0.0036	1.0000		
PG	0.2598	0.0171	0.1816	0.0031	0.0501	0.0201	0.0209	-0.1390	1.0000	
PS	0.1132	-0.3501	-0.2159	0.0001	-0.3074	-0.3643	-0.0018	0.3814	-0.1789	1.0000

Source: UIII Thesis Processed, 2024

Table 11 above shows that the correlation value of each variable is no greater than 0.8, meaning that the data in this study are free from correlation problems.

According to Ghozali (2009), multicollinearity exists if the VIF value > 10. The following are the results of the Multicollinearity Test by looking at the VIF value:

Table 12 Multicollinearity Test Results Looking at VIF Value

Variable	VIF	1/VIF
l1_PG	5.99	0.166953
l1_TRADE	5.39	0.185523
l1_TAGT	5.27	0.189585
l1_TAPT	3.92	0.255323
l1_TATTran	3.73	0.268146
l1_TABT	3.11	0.321410
l1_PS	2.38	0.419393
l1_GDP	1.87	0.534252
l1_TATTour	1.18	0.849638
Mean VIF	3.65	

Source: UIII Thesis Processed, 2024

$$r_{XY} = \frac{\sum_{i=1}^{n}(X_i - \bar{X})(Y_i - \bar{Y})}{\sqrt{\sum_{i=1}^{n}(X_i - \bar{X})^2 \sum_{i=1}^{n}(Y_i - \bar{Y})^2}}$$

Table 12 above shows that the VIF value for all the variables is smaller than 10, meaning that all independent variables in this thesis pass the Multicollinearity Test.

4.4.3 Heteroscedasticity Test

The Heteroscedasticity Test aims to determine whether the regression model has an inequality of variance from the residuals of one observation to another. According to Gujarati (1978), the assumption of homoscedasticity is that the variance of each error element must have the same constant number, depending on the selected value of the independent variable.

Table 13 Heteroscedasticity Test Results

Effect Test	Prob.
Chi2 (47)	5,0e+06
Prob > Chi2	0,0000

Source: UIII Thesis Processed, 2024

$$\text{White test} = N*R^2 \sim \chi^2(k)$$

Based on the results of the Heteroscedasticity Test carried out and proven in Table 13 above, the Prob> Chi2 value is 0.0000 or smaller than alpha (0.05), which means that in the regression analysis, there are indications of heteroscedasticity problems. Because this thesis uses the REM, these results are not used for analysis. This test can be used for fixed effect result on stata17.

4.4.4 Autocorrelation Test

According to Ghozali (2016: 107-108), the Autocorrelation Test aims to determine whether there is a correlation between errors in the regression model. Autocorrelation problems occur if the correlation arises from consecutive observations over time that are related to each other.

$$Y_{it} = \alpha + \beta_1 X_{it} + \mu_{it}$$
$$\widehat{\mu_{it}} = \rho\widehat{\mu_{it-1}} + \beta_1 X_{it} + \nu_{it}$$

Table 14 Autocorrelation Test Results

Effect Test	Prob.
F (1,46)	11.969
Prob > F	0.0012

Source: UIII Thesis Processed, 2024

The results of the Heteroscedasticity Test in Table 14 above show that the Prob > F value is 0.0012 or smaller than alpha (0.05), which means that in the regression analysis, there are indications of autocorrelation problems.

4.5 Panel Data Regression

Based on the test results, REM is chosen as the best model to estimate the effect of terrorist attacks on tourist targets, terrorist attacks on transportation targets, terrorist attacks on business targets, terrorist attacks on government targets, terrorist attacks on police targets, political globalization, political stability, gross domestic product, and trade openness on foreign direct investment in Muslim countries in the world for the period 2002 to 2021.

Table 15 Comparing Models

Variable	OLS	FE	RE	Robust RE
l1_TATTran	3.5e+07	4.5e+07	4.6e+07	4.59e+07
	0.325	0.095	0.83	0.060
l1_TABT	-2.4e+07*	-1.9e+07**	-2.0e+07**	-1.96e+07***
	0.011	0.003	0.002	0.000
l1_TATTour	1.7E+08	3.6e+08	3.6E+08	3.59e+08
	0.616	0.110	0.111	0.199
l1_TAPT	-5.7e+06	-1.2e+07**	-1.2e+07**	-1.17e+07*
	0.327	0.002	0.002	0.036
l1_TAGT	4.8e+06	1.6e+07	1.5e+07	1.50e+07*
	0.712	0.102	0.113	0.016
l1_TRADE	1.4e+07**	1.6e+07*	1.6e+07*	1.59e+07
	0.007	0.017	0.010	0.236
l1_PG	8.3 e+07***	3.7e+07	5.4 e+07**	5.32e+07
	0.000	0.111	0.005	0.158
l1_GDP	7.2e+04***	5.2e+04	5.5e+04	54863.77
	0.000	0.294	0.087	0.217
l1_PS	-3.1e+07	2.8e+08	2.6e+08	2.64e+08
	0.881	0.177	0.191	0.503
cons	-4.2e+09***	-1.3e+09	-2.3e+09	-2.23e+09
	0.000	0.430	0.101	0.257
N	893	893	893	893
R2	0.1461	0.1159	0.1326	0.1326

Source: UIII Thesis Processed, 2024

Generalized Least Squares (GLS) is a statistical and econometric method for estimating the parameters of a regression model when there is heteroscedasticity or correlation between error terms. Gujarati defines GLS as a technique used to overcome the

problems of heteroscedasticity and autocorrelation in linear regression. According to him, GLS is a development of the Ordinary Least Squares (OLS) method, which takes into account differences in variance and covariance in error terms to produce more efficient parameter estimates (Gujarati, 2009).

$$\gamma_{it} = \alpha_{0i} + \beta_1 X1_{it} + \cdots + \beta_N XN_{it} + \mu_{it}$$

The random effect panel data estimation method uses the GLS method (Gujarati & Porter, 2009). GLS processes panel data by changing the original regression model into a form whose error term can pass the classic OLS assumption test. The assumption tests in question are the homoscedasticity test and the autocorrelation test.

However, the autocorrelation test can only be carried out on fixed effect models so that random effects do not require passing this assumption test. GLS allows to take into account correlation and variance structures that may differ between cross-sectional units or over time. One of the advantages of the GLS method is that it does not require classical assumption tests. The results of the REM estimation model processing can be seen in Table 15 as follows:

Table 15 Panel Data Regression (Robust REM)

R-Square		**Numb. Of Observation = 893**				**Obs Per Group**
Within: 0.0405		Numb. Of Groups = 47				Min = 19
Between: 0.1830		Wald Chi2 (9) = 441.62				Avg = 19.0
Overall: 0.1326		Prob > chi2 = 0.0000				Max = 19
Variable (FDI)	**Coef,**	**Robust Std.Error**	**z**	**P>|z|**	**[95% conf. interval]**	
l1_TABT	-1.96e+07	3293074	-5.95	0.000	-3.19e+07	-7301530
l1_TAGT	1.50e+07	6261828	2.40	0.016	-8.17e+07	8.02e+08
l1_TAPT	-1.17e+07	5590278	-2.10	0.036	-6181684	9.78e+07
l1_TATTran	4.59e+07	2.45e+07	1.88	0.060	-1.91e+07	-4320685
l1_TATTor	3.59e+08	2.79e+08	1.29	0.199	-3493868	3.37e+07
l1_GDP	54863.77	44520	1.23	0.217	-7954.816	117682.4
l1_TRADE	1.59e+07	1.34e+07	1.18	0.236	3724540	2.80e+07
l1_PG	5.32e+07	3.80e+07	1.41	0.158	1.62e+07	9.02e+07
l1_PS	2.64e+08	3.91e+08	0.67	0.503	-1.28e+08	6.57e+08
cons	-2.23e+09	2.03e+09	-1.13	0.257	-6.2e+09	1.68e+09

Source: UIII Thesis Processed, 2024

Based on Table 15 above, the panel data regression equation is obtained as follows:

FDI = -2.28e+09 + -1.96e+07 (TABT) + 3.59e+08 (TATTour) + 4.58e+07 (TATTran) + -1.17e+07 (TAPT) + 1.51e+07 (TAGT) + 54863.77 (GDP) + 1.59e+07 (TRADE) + 5.32e+07 (PG) + 2.64e+08 (PS) + e

The panel data regression estimation results are shown in the table above. The estimation results show that each variable has a different coefficient. The explanation of each variable is explained in the t-statistics test section. Table 15 is the result of panel data regression using the REM method on the independent and dependent variables with significance at the 5% level.

This thesis uses panel data regression with lag optimal 1 year for all independent variables. The reason of this thesis processed data with n-1 because this thesis aims to predict the impact of terrorist attacks in a year for FDI for the next year. Based on this logic, this thesis uses model formula for lag:

$$\text{FDI} = \alpha + -1.96\text{e} + 071\ \text{TABT}\ t-1 + 3.60\text{e} + 082\ \text{TATTour}\ t-1 + 4.58\text{e} + 073\ \text{TATTran}\ t-1 + -1.17\text{e} + 0741\ \text{TAPT}\ t-1 + 1.51\text{e} + 075\ \text{TAGT}\ t-1 + 54863.776\ \text{GDP}\ t-1 + 1.59\text{e} + 077\ \text{TRADE}\ t-1 + 5.32\text{e} + 078\ \text{PG}\ t-1 + 2.64\text{e} + 089\ \text{PS}\ t-1 + \mathcal{U}t$$

Based on the results of the equation, it can be explained that:

1. The constant value is -2.28e+09, indicating that if the independent variables (Terrorist Attacks on Tourist Targets, Terrorist Attacks on Transportation Targets, Terrorist Attacks on Business Targets, Terrorist Attacks on Government Targets, Terrorist Attacks on Police Targets, Political Globalization, Political Stability, Gross Domestic Product, and Trade Openness) are considered constant or unchanged in this year, then FDI has a value of -2.28e+09 in the next year (lag 1 year). A negative constant value can be interpreted as zero, so in this study, it is stated that if in this year there are no independent variables in the study, then no FDI is obtained in the next year.
2. The coefficient value of TABT is -1.96e+07, meaning that in this study, every 1% increase in the average TABT in one year, it will reduce FDI next year (lag 1 year) by 1.96%, assuming other variables are constant or fixed. The probability value of TABT is 0.002, meaning that TABT has a significant negative effect on FDI in the Muslim World. In case, this result predicts that each terrorist attack on business target in a year will reduce FDI in the following year.

3. The coefficient value of TATTour is 3.60e+08, meaning that in this study, for every 1% increase in the average TATTour in a year, FDI will increase by 3.60% in the next year (lag 1 year), assuming other variables are constant or fixed. The probability value of TATTour is 0.110, meaning that TATTour has no effect on on FDI in the Muslim World. In this case, this result predicts that for terrorist attacks on tourism targets, there is no impact on FDI in the following year.
4. The coefficient value of TATTran is 4.58e+07, meaning that in this study, every 1% increase in the average TATTran in a year will increase FDI by 4.58% in the next year (lag 1 year), assuming other variables are constant or fixed. The probability value of TATTran is 0.084, meaning that TATTran has no effect on FDI in the Muslim World, thus there is no impact on FDI in the following year after an attack on transportation.
5. The coefficient value of TAPT is -1.17e+07, meaning that in this study, every 1% increase in the average TAPT in a year will reduce FDI by -1.17% in the following year (lag 1 year), assuming other variables are constant or fixed. The probability value of TAPT is 0.002, meaning that TAPT has a negative effect on FDI in the Muslim World. In this case, this result predicts that each terrorist attack on police target in a year so, will decrease FDI in the year after.
6. The TAGT coefficient value is 1.51e+07, meaning that in this study, every one attack or one case of TAGT in a year, will increase the average of FDI in the following year (lag 1 year) by 1.51%, assuming other variables are constant or fixed. The probability value of TAPT is 0.111, meaning that TAGT has no effect on FDI in the Muslim World. In case, this result predicts that terrorist attacks on government targets in the space of a year so has is no impact on FDI in the following year.
7. The coefficient value of GDP is 54863.77, meaning that in this study, every 1% increase in average GDP in a year, will increase FDI by 54.86% in the next year (lag 1 year), assuming other variables are constant or fixed. The probability value of GDP is 0.087, meaning that GDP has a significant and positive effect on FDI in the Muslim World. In this case, this result predicts that the fluctuations of GDP in a year or so will have no impact on FDI in the following year.
8. The coefficient value of TRADE is 1.59e+07, meaning that in this study, every 1% increase in the average TRADE in a year, will increase FDI by 1.59% in the next year (lag 1 year), assuming other variables are constant or fixed. The probability value of TRADE is 0.010, meaning that TRADE has a significant and positive

effect on FDI in the Muslim World. Thus this result predicts that each fluctuation of Trade Openness in a year so will increase FDI in the next year.

9. The coefficient value of PG is 5.32e+07, meaning that in this study, every 1% increase in the average PG in a year will increase FDI by 5.32% in the following year (lag 1 year), assuming other variables are constant or fixed. The probability value of PG is 0.005, meaning that PG has a significant and positive effect on FDI in the Muslim World. In this case, each fluctuation of Political Globalization in a year is predicted to increase FDI in the year after.
10. The coefficient value of PS is 2.64e+08, meaning that in this study, every 1% increase in the average PS in a year will increase FDI by 2.64% in the year after (lag 1 year), assuming other variables are constant or fixed. The probability value of PS is 0.187, meaning that PS has no influence on FDI in the Muslim World. In this case, this result predicts that fluctuations of Political Stability in a year will have no impact on FDI in the year after.

4.6 Significance Test

4.6.1 F-Statistic Test (Goodness Fit Test)

The F test was conducted to determine the relationship or influence of the independent variables on the dependent variable together. Based on the panel data regression estimation results shown in Table 10, the F-Statistic probability value is 0.000, which is smaller than the $\alpha = 5\%$ or 0.05 value.

Table 16 F Test Results

Effect Test	Prob.
Wald Chi2 (9)	44.65
Prob > F	0,0000

Source: UIII Thesis Processed, 2024

The results of data analysis in Table 16 show that the variables of Terrorist Attacks on Tourist Targets, Terrorist Attacks on Transportation Targets, Terrorist Attacks on Business Targets, Terrorist Attacks on Government Targets, Terrorist Attacks on Police Targets, Political Globalization, Political Stability, Gross Domestic Product, and Trade Openness, have a joint effect on FDI in Muslim countries.

4.6.2 Partial Test

A Partial Test is usually carried out to test hypotheses about regression coefficients individually using the REM method of regression calculation as follows:

Table 17 Result of T Test

Variable	Coef,	P>|z|	t Table
TABT (lag 1)	-1.96e+07	0.002	1,96262405
TATTour (lag 1)	3.60e+08	0.110	1,96262405
TATTran (lag 1)	4.58e+07	0.084	1,96262405
TAPT (lag 1)	-1.17e+07	0.002	1,96262405
TAGT (lag 1)	1.51e+07	0.111	1,96262405
GDP (lag 1)	54863.77	0.087	1,96262405
TRADE (lag 1)	1.59e+07	0.010	1,96262405
PG (lag 1)	5.32e+07	0.005	1,96262405
PS (lag 1)	2.64e+08	0.187	1,96262405
cons	-2.28e+09	0.105	1,96262405

Source: UIII Thesis Processed, 2024

Table 17 above shows the partial effect on each variable, which is explained as follows:

1. Tests on Variable (TABT)

   Based on the calculation results, if the probability value > z is 0.002 or smaller than 0.05, then the TABT (lag 1) hypothesis (Ha) is accepted, meaning that TABT partially has a significant effect on FDI in the Muslim World. It means each case of TABT, or one attack to business target, in this year (one year before FDI), will reduce FDI by 1.96% in the Muslim World in the next year.

2. Testing the Variable (TATTour)

   Based on the calculation results, the probability value > z is 0.110 or greater than 0.05, so the TATTour (lag 1) hypothesis (Ha) is rejected, meaning that TATTour partially has no effect on FDI in the Muslim World.

3. Testing the Variable (TATTran)

   Based on the calculation results, the probability value > z is 0.084 or greater than 0.05, so the TATTran hypothesis (Ha) is rejected, meaning that TATTran partially has no effect on FDI in the Muslim World.

4. Testing the Variable (TAPT)

   Based on the calculation results, the probability value > z is 0.002 or smaller than 0.05, so the TAPT hypothesis (Ha) is accepted, meaning that TAPT partially has

effect on FDI in the Muslim World. It means that each attack on police targets in a year will decrease FDI in the Muslim World the following year.

5. Testing the Variable (TAGT)

   Based on the calculation results, if the probability value > z is 0.111 or greater than 0.05, then the TAGT hypothesis (Ha) is accepted, meaning that TAGT partially has an influence on FDI in the Muslim World.

6. Testing the Variable (GDP)

   Based on the calculation results, the probability value > z is 0.087 or greater than 0.05, then the GDP hypothesis (Ha) is rejected, meaning that GDP has no significant effect on FDI in the Muslim World.

7. Testing the Variable (TRADE)

   Based on the calculation results, the probability value > z is 0.005 or greater than 0.05, so the TRADE hypothesis (Ha) is accepted, meaning that TRADE partially affects FDI in the Muslim World.

8. Testing of Variable (PG)

   Based on the calculation results, the probability value > z is 0.005 or greater than 0.05, thus the PG hypothesis (Ha) is accepted, meaning that PG partially affects FDI in the Muslim World.

9. Testing of Variable (PS)

   Based on the calculation results, the probability value > z is 0.187 or greater than 0.05, so the PS hypothesis (Ha) is rejected, meaning that PS partially has no effect on FDI in the Muslim World.

4.6.3 Coefficient of Determination Test

The Coefficient of Determination Test determines how much the independent variable in this model can explain the dependent variable.

Table 18 Coefficient of Determination Test Results

R-squared	
Within	**0.0404**
Between	**0.1824**
Overall R-squared	**0,1322**

Source: UIII Thesis Processed, 2024

Table 18 above shows that the coefficient of determination (R2) is 0.1322. The R-squared value is between $0 \leq 0.1322 \leq 1$; this indicates that the variation of all independent variables, namely terrorist attacks on tourist targets, terrorist attacks on transportation

targets, terrorist attacks on business targets, terrorist attacks on government targets, terrorist attacks on police targets, political globalization, political stability, GDP, and trade openness, is able to explain its effect on FDI in the Muslim World by 0.1322, or 13.22%, while the remaining 86.78% is explained by other variables that are not included in this research model.

To illustrate the conditions and cases of the panel data regression results, this thesis describes several cases related to terrorist attacks on country assets directly and indirectly. This thesis selects one of the OIC countries to clearly demonstrate how the variation activities of terrorist attacks occur within a country. Since panel data has many units or research subjects, this thesis selects the country through a scatter plot of the average value of each country. The use of this data visualization is useful in determining which countries are suitable for technical discussion and evidence of terrorist activity, and it provides an explanation of the relationship between variations in terrorist attacks on FDI through country assets.

The discussion in this section is to provide an overview based on the flow of risk that this thesis has formulated into a chart in Chapter Three in the theoretical framework sub-chapter. The descriptive explanation through case collection is divided into two.

First, direct terrorist attacks, looking at terrorist attacks on business targets. In this first flow of risk, this thesis collects incidents of attacks with both internal terrorist actors or cases and those committed hy external actors. Terrorist attacks from within the country are defined as those committed by domestic terrorist actors without any intervention, assistance, and networks from abroad. External terrorist attacks are defined as terrorist actors with international networks and which are accommodated organizationally.

Second, the flow of risk based on indirect terrorist attacks. This risk occurs when terrorists target the government and police. In political risk theory, both targets have an impact on FDI but not directly. Attacks on both result in the emergence of new policies in the investment area and a loss of investor confidence regarding the security of the region or country.

The result of this thesis states that there are three variations of terrorist attacks that have a significant impact on FDI. Firstly, terrorist attacks on business and police targets have a significant negative impact on FDI in the Muslim World. Secondly, terrorist attack on government targets has a positive significance on FDI in the Muslim World. Based on Simon's political risk theory framework, TABT, TAPT, and TAGT have different attack flows (Simon, 1984). First, TABT is categorized by attacks from internal (host society) and

external (international terrorist groups) that directly attack FDI (having a significant negative impact).

Second, TAPT and TAGT are categorized as internal (host society) attacks that indirectly affect FDI. These attacks target state institutions as investees. The goal is that the government will cancel or make a policy related to the rejection of the investment. So, TAPT has an indirect impact on the internal development of FDI.

The hypothesis test result states that TATTour has no significant effect on FDI in the Muslim World. Thus, the Hnull that TATTour has no effect on FDI is accepted. The type of attack is a direct terrorist attack on FDI. The attack comes from internal and external terrorists. The existence of terrorist attacks does not discourage people from going to tourist spots. However, the government is aggressively trying to close the gap on the negative impact of terrorist attacks by establishing a link between terrorist events in some areas and tourist arrivals in other areas. Seabra et al. (2020) discussed the relationship between terrorist attacks and tourists and found significant negative results.

The hypothesis test results state that TATTran has no significant effect on FDI. Thus, the Hnull, which states that TATTran has no effect on FDI, is accepted. This result is not in line with previous studies (Shvestov & Shvestov, 2019; Jha, 2009), which state that terrorist attacks on transportation would have a detrimental impact on the government. FDI losses due to these attacks fall into direct internal and external risks that target the internally industrialized nations and the internally developing. Both targets directly have a negative effect on FDI, but the results of this study show that there is no relationship between these attacks and FDI.

The hypothesis test results show that TAPT has a significant negative effect on FDI in the Muslim World. Thus, the H_a which states TAPT has an effect on FDI in the Muslim World is accepted. This finding is not in line with previous studies (Gibbs, 2018; Gabriel et al., 2007; Alexander, 1978), which find that attacks on police result in a loss of foreign investment confidence or foreign organizations looking to cooperate with the the government. The risk type is an indirect result of internal terrorist attacks. This helps explain that terrorist attacks against the police do not affect FDI directly because investment assets are not the target of the attack. However, the targets impact foreign investors' trust in how the government maintains the security of the investment environment and domestic political stability.

Determinants of FDI are important to include in the research model because the majority of countries in the Muslim World depend on foreign investment inflows (Azzaki et al., 2023). This thesis uses four determinant variables of FDI: trade openness, GDP,

political stability, and political globalization. Political stability is important as a determinant in this study because most Muslim countries will experience inflation if political stability affects FDI (Al Mustafa, 2021).

Another study with the same method, namely panel data regression using OLS by Shah (2015), found that the terrorist variables had a significant negative effect on FDI in SAARC countries (Bangladesh, India, Nepal, Pakistan, and Sri Lanka) from 1980-2012. Shah also used the trade openness variable as a determinant of FDI in the data analysis series. The trade openness variable was also used by Anwar in a study of terrorist attacks on FDI in Pakistan with two independent variables, namely terrorism and political instability, concluded that the the two independent variables had a significant negative effect on FDI (Anwar & Afza, 2014).

The results of hypothesis testing show that terrorist attacks on business targets (TABT) have a significant impact on FDI in the Muslim World, thus $H_{a,}$ which states that terrorist attacts on business targets affect FDI is accepted. This is in line with the theory expressed by Eminue and Ufomba (2015), which suggests that terrorists choose targets that correlate with business. Similar results have been found in several previous studies (Czinkota et al., 2010; Barton, 1993) that show how attacks on businesses as FDI assets will have a negative impact on FDI growth.

This can cause governments to depress. In this study, the data show that terrorism has a particularly bad impact on business in Muslim World countries as attacks result in large losses, affecting FDI and the economic growth of Muslim countries. The results of this study are also in line with Chia-Yi Lee's research (2022).

A high TABT value indicates terrorists target large businesses in the targeted country. This research shows the negative impact of attacks on businesses. It argues that energy is a key target more broadly, and thus the definition of energy terrorism should be expanded to include all terrorist incidents where energy plays a role in influencing terrorist targeting. Terrorists have an incentive to attack energy companies because energy powers modern society and is key to a country's economic growth.

To minimize the confusion in explaining the two flows of risk, the theoretical framework in this thesis provides which parts of FDI can be affected by the two different flows of risk (direct and indirect). First, direct attacks through internal and external terrorists will impact assets in the industrialized MNC sector. Therefore, a series of cases directly target investment assets. For example, the Islamic State (IS) terrorist organization carried out attacks on oil refinery mines in Iraq. This directly impacted Iraq's FDI through internal industrialization.

Second, an indirect terrorist attack on FDI is an attack from the internal host society on the internal host investee. The government and police are part of the internal host investee. The theory in this thesis assumes that this second flow of risk has an impact within the internally developing country that affects the circulation of FDI. The impact can be through the loss of investor confidence as the government experiences security vulnerabilities and the emergence of policies that change investment conditions in certain conflict areas.

Iraq is a country with a wealth of natural resources and low financing. Iraq's abundant natural resources include oil and natural gas reserves. These oil resources are Iraq's main source of income in sustaining the country's economy, with the resilience of oil sales in Iraq reaching 90% in influencing the country's income. Specifically, Iraq's international oil exports account for 80% of its foreign exchange earnings (Khan & Ruiz, 2016). This is one of the main reasons foreign investors are interested in large-scale investment and cooperation with Iraq. This situation means Iraq depends on sales and cooperation related to its natural resources. Dependence on the sale of natural resources on a global scale is both an economic opportunity and a threat. Internal and external conflicts in Iraq pose a major threat to the smooth import of oil to foreign countries.

The high mobility and activity of terrorists in Iraq have a massive negative impact on the country's economic growth. This impact directly affects the loss of assets in the investment sector and state enterprises. This political risk has also affected Iraq's economic environment, which has become increasingly unstable and insecure. The creation of these conditions and the economic environment has caused foreign investment to avoid Iraq as long as conflict and terrorist activities are still high in the country (Ali & Aliawareeen, 2003).

The high negative impact of terrorist attacks also caused Iraq to become the top country on the list of countries vulnerable to terrorist attacks. The meaning of vulnerability to terrorist attacks is that the country cannot minimize the impact of attacks on the country's economy. Iraq also tops the list of countries affected by terrorism (GlobalTerrorismIndex, 2017). The terrorism index figure in Iraq reached 18% and this figure is the highest index from the data of the top 10 countries most affected by terrorist attacks.

Internal conflict in Iraq occurs for several reasons, including political-religious ideological disputes, terrorist activities, and social unrest. The IS group is one of the international networks of terrorist organizations active in Iraq. This radical organization has high mobility within the country. As a result, IS activities have negatively impacted the state, especially in the asset and business sectors. This can be verified with data from the

Financial Action Task Force (FAFT), which shows that IS had several illegal money flows (Levallois et al, 2017). The money is the main budget for carrying out terrorist attacks and intimidation of the government and society.

IS conducts its main budget collection in several ways. First, acts of aggression against society such as the forceful taking of wealth or theft through violence. Secondly, the organization expanded into Iraq's economic land (oil). This expansion does not stop the attacks and the level of damage, however, but IS has control over the management of oil wells. Thus, this has become one of the high revenue streams for funding terrorist movements.

Terrorist attacks on business targets directly cause huge losses. Iraq suffered the biggest loss in 2017 with a total loss of US$45.7 billion (U.S. dollar exchange rate) (Ali & Aliawareeen, 2003). Furthermore, losses from terrorist attacks on the tourism sector reached $745 million (US dollar exchange rate), and government losses in the state security sector reached $13 billion (U.S. dollar exchange rate).

The direct impact of terrorist attacks also occurs in the decrease in employees of industrial companies due to terrorist attacks and internal conflicts related to liberation in Iraq. This finding is based on the data recorded by the Iraqi Ministry of Planning, which noted that the decline of employees working at foreign industrial companies decreased by 153,000 employees in 2016 (Ministry of Planning, 2017). This impact began to subside when the Iraqi government managed to minimize the liberation conflict and terrorism in 2019. The increase in workers in the industrial company sector then increased by 9% of the total employees, or a total figure of 269,000.

The oil situation got worse as the mobility of the IS terrorist organization massively increased in Iraq, especially from 2014 to 2018. During this period, The IS group controlled several oil mines. This co-optation is not only related to the control of the mining area but IS was also able to operate sales so that the revenue did not go to the state but instead funded the terrorist organization.

On the other hand, other oil mines that are still under the auspices of the Iraqi government have suffered damage due to terrorism attacks and the Iraq Liberation Movement. The attacks aimed to sabotage the operations of government oil wells and physically destroy the oil mines. The government of Iraq noted that the damage intensified in 2016. From the beginning to the middle of 2016, the number of terrorist attacks increased with a total of 116 cases documented. All of these attacks targeted state-owned enterprises, especially oil or natural resource companies and mines.

This directly damaged Iraq's FDI circulation, with many foreign countries avoiding transactions and investments because the risk was greater than the value of the transaction. The terrorists also targeted oil transportation routes, meaning investors no longer had a guarantee of investment security. The number of terrorist attacks in three consecutive years from 2014 to 2016 was 423, 531, with a peak of 565 cases of terrorist attacks on companies and state investments, especially in the oil industry.

The hypothesis test results show that terrorist attacks on police targets have a significant effect on FDI, thus Ha, which states that terrorist attacks on police targets have an effect on FDI in the Muslim World, is accepted. However, the results of this thesis show a negative relationship with FDI. These results are different from previous studies (Koch & Cranmer, 2007; Jain & Grosse, 2009; Harvey, 1993), which conclude that terrorist attacks are detrimental to FDI recipient countries. Based on Simon's (1984) risk flow, a terrorist attack on the government will cause disruption to the government. Through the government's response to the attack, it will impact foreign investment assets through internal developing. This attack is categorized as a direct attack that, according to Simon, includes civil war, social unrest, and resistance against the government.

The indirect impact of terrorist attacks has an important value in the considerations of investor countries when providing investment. Some important factors from the indirect results of internal terrorist attacks are how the government reforms security policies, investment licensing, the economic environment for the smooth running of investor assets, and the government's response to global trade rules (Czinkota et al., 2010). Some of these factors are possible reasons why indirect terrorist attacks against the police (TAPT) have a significant negative result in this thesis.

Furthermore, data related to terrorist attacks in Iraq show that attacks against the police accounted for 19.6% of the total 11,918 terrorist attacks (Global Terrorism Database, 2014). The accumulated number of terrorist attack cases was recorded from 2003 to 2013. This data can support the findings, as the number of terrorist attacks in Iraq were not only on business targets but also on police targets.

The purpose of terrorists targeting the police is to build the opinion that Iraq's security is weakened (Collard-Wexler et al, 2014). Thus, Iraq's cooperation efforts with foreign countries are hampered. Terrorists consider the police as one institution that is used to gauge the country's ability to maintain its security (Gibbs, 2018). On the other hand, the police are an easy target for random attacks. Although the target of the attack is random, public opinion is built around one theme: the country's internal security is weak.

Terrorists carry out attacks on the police not only because they want to pose a threat to the government, but terrorists have a strong motive as it is likely their country cooperates with foreign countries, especially in the security sector (Pickering and Kisangani, 2009). Data from the International Military Intervention (IMI) also shows that 39% of countries that cooperate with foreign countries in the security sector see increased terrorist attacks against the police. This argument is consistent with the security situation in Iraq. Iraq's cooperation with foreign countries in providing foreign military assistance is the cause of the increase in terrorist attacks in Iraq, especially when Iraq was involved in a period of conflict between countries (Gibbs, 2018).

Another argument that terrorist attacks on police are conducted to undermine cooperation with foreign countries is also found in India and Pakistan. During the war over Kashmir between India and Pakistan, foreign cooperation in the security sector such as the military increased. This led to terrorists targeting attacks against police. In India, Bajoria found that 52.5% of terrorist attacks against police occurred around the conflict zone of Jammu and Kashmir (Bajoria, 2010). This is based on data on terrorist attacks against police from 1999 to 2008.

Based on the arguments in the two paragraphs above, terrorist attacks on police are motivated by the drive to eliminate the trust of other countries in the context of state security. In the context of this thesis, Iraq experienced terrorist attacks on the police with the motive of building the international opinion that Iraq is an unsafe country to receive foreign investment. An example to corroborate this statement is the bombing in Kirkuk, north-central Iraq. IS shared through social media that they were the ones who attacked, alongside attacks using light weapons on the police right after the bomb exploded (AlJazeera, 2022).

The attack was not random. IS chose police security in Kirkuk because the city has one of Iraq's major oil refineries. These types of attacks also disrupt the security conditions of the region's investment assets and state assets. Therefore, this thesis separates terrorist attacks against police targets into an indirect-internal flow of risk. This means that the impact of the attack is not directly on the investor's assets but rather poses a threat to the investment sector for Iraq's industrialization. Therefore, the impact of this attack has an influence on FDI through the internal development of Iraq.

Chapter 5
Conclusion and Suggestion

5.1 Conclusion

The variation of terrorist attacks through five targets (business, tourist, transportation, government, and police) is the main discussion to see its relationship with FDI in 47 Muslim countries. The data for each country in this thesis is a 20-year time series. The logic to predict the impact of terrorist attacks on FDI is a year after the attack. This logic is tested using panel data regression to see causality among variables. This thesis argueds that terrorist attacks will affect FDI in the following year because foreign investors and political economic policy will consider the political risks following terrorist attacks. That is why this thesis used lag 1 year (n-1) for all independent variables.

The results of the statistical calculations through partial tests found that the variables of terrorist attacks on tourist targets and terrorist attacks on transportation targets do not have a significant relationship with FDI in the Muslim World, While the other three variables, namely terrorist attacks on business targets (negative impact), terrorist attack on police targets (negative impact), and terrorist attack on government targets (positive impact) have a significant effect on FDI in the Muslim World. Furthermore, the results from the significant test or F-test (Goodness Fit) show that all variables influence FDI into the Muslim World. Based on the determination coefficient test results, all variables in this model have an overall R-squared of 0.1326. In other words, all variables in this thesis model influence FDI by 13.26%.

Then, this thesis conducts a simple investigation to see the empirical case of the panel regression results through the selection of a single country. The Republic of Iraq is the country of choice to see how the variations of terrorist attacks affect FDI directly and indirectly based on the political risk theoretical framework. The selection of Iraq was made through the accumulation of values from each variable, country, and year into an average value, which was then visualized through a scatter plot. So, the distribution of data that is in the middle of the distribution of the average value of the independent and determinant variables, meant thar Iraq chosen to provide a simple description of terrorist attacks on FDI.

Terrorist attacks in the Republic of Iraq have a strong direct and indirect effect on FDI. Iraq has abundant oil and natural gas wealth. These natural resources make Iraq highly dependent on exports, investment, and cooperation with foreign countries. Meanwhile, terrorist activities in Iraq directly target oil miners. Terrorists carry out direct attacks through mine co-optation and hostage attacks against employees.

Indirect attacks also occur against the police. Terrorist groups only systematically attack the police in certain areas. So, terrorists only attacked the police who were in charge of security in several areas around the oil mine. The main target is not the police, but to build public opinion that the economic security conditions in the investment area to show potential investors that they do not have security guarantees. This happens because terrorism is aimed at foreigners who are involved in oil mining in Iraq.

All in all, this thesis found that terrorist attacks on FDI in the Muslim World through a variety of attack targets will provide more specific predictive value. Political risk explains the flow of risk classifications for each attack variation. Therefore, the reasoning in testing and searching for cases in this thesis became easier. The result of this thesis provides a simple overview of terrorist attacks based on five targets against FDI in the Muslim World.

5.2 Limitations of Research

First, this study is limited in the formation of model components that are included in the regression analysis. The author recognizes that the collection and verification of variables so far has only reached five variations of the target of attack and four variables as determinants of FDI. Efforts to isolate the variables included in the model have been made within the author's limitations to avoid violating classical assumptions and confusing the research framework. In fact, the author found several other variables that were not included in the model because these variables changed the main model (dependent model) in this research hypothesis. So, the research only provides a simple overview of the prediction of the impact of the attack.

A second limitation of this thesis is that some country data was not available in the database portals used. Because the research design requires 20 years of data for each variable in the Muslim World, this research only used 47 countries out of the total 57 OIC members. The 10 countries with unavailable data are Afghanistan, Somalia, Nigeria, Mozambique, Palestine, Djibouti, Oman, Guyana, Maldives, and Suriname. The meaning of “unavailable data” is not the data for all local focus databases; excluding Palestine (because of World Bank do not recognize Palestine as a country).

A third is that the discussion in this thesis is not wholly sufficient to interpret the theory of political risk, especially in providing a deep empirical case related to the flow of risk. An empirical case to provide an overview based on the flow of risk requires qualitative analysis or quantitative analysis with more advanced methods. So that the main cause of the variation in the target of terrorist attacks on FDI can be argued with stronger evidence (single or multiple case studies to find the main cause of the variation in attacks on FDI)

and more details (such as the VECM / DID method to determine the impact of terrorist attacks more specifically per year).

Fourth, the author also found difficulties in finding previous research that discusses the impact or correlation between variants of terrorist attack on FDI, especially in the Muslim World. So previous studies that became the research background and support for this thesis, were topics that still have only one discourse in this research, like the terrorist variant of attacks on the power transition of government and terrorist attacks (attack accumulation) on FDI.

5.3 Suggestions

This thesis research contributes to the discourse of terrorist attacks on FDI in Muslim-majority countries. The specification through the variation of attacks can provide specific prediction results of what kind of attacks influence FDI in these countries. The theoretical framework that this thesis describes can help future researchers to analyze the flow of political risk, which is one of the main factors for foreign investors to cooperate with investee countries. The theoretical framework offers a classification of the risk of attacks on FDI with direct and indirect impacts and the type of attack through acts of local or international terrorism.

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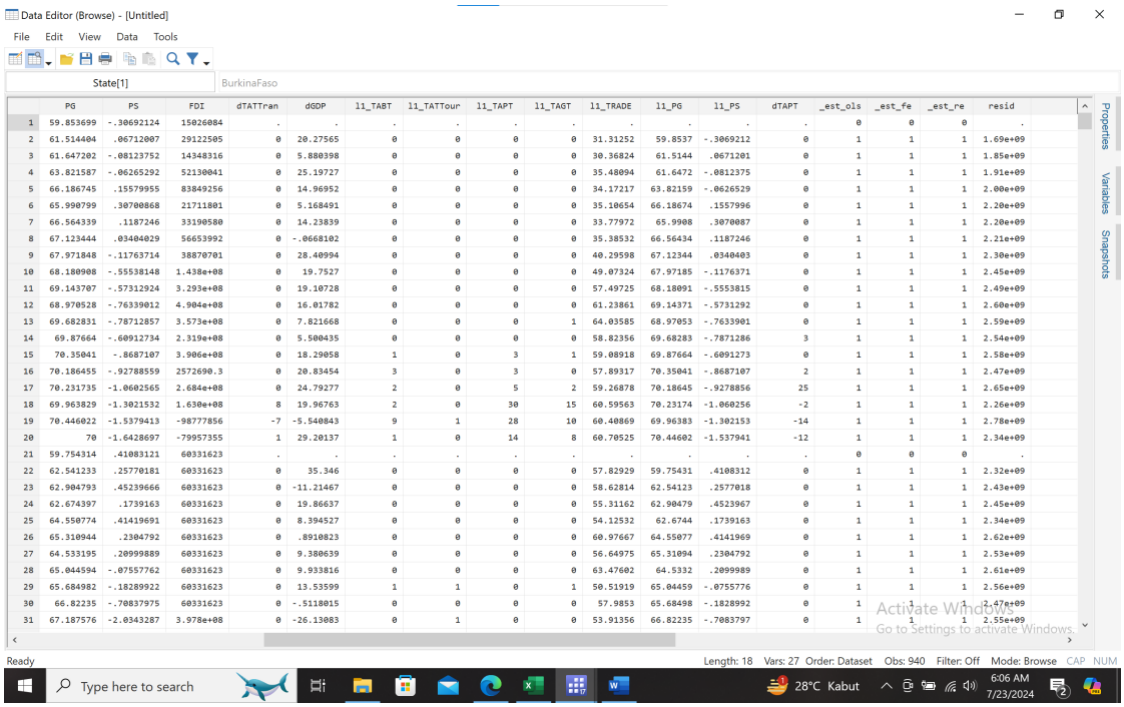
APPENDIX

Appendix 1 Part of Dataset



	PG	PS	FDI	dTATTran	dGDP	l1_TABT	l1_TATTour	l1_TAPT	l1_TAGT	l1_TRADE	l1_PG	l1_PS	dTAPT	_est_ols	_est_fe	_est_re	resid
1	59.853699	-.30692124	15026084	.	.	.	.	.	.	.	.	.	.	0	0	0	.
2	61.514404	.06712007	29122505	0	20.27565	0	0	0	0	31.31252	59.8537	-.3069212	0	1	1	1	1.69e+09
3	61.647202	-.08123752	14348316	0	5.880398	0	0	0	0	30.36824	61.5144	.0671201	0	1	1	1	1.85e+09
4	63.821587	-.06265292	52130041	0	25.19727	0	0	0	0	35.48094	61.6472	-.0812375	0	1	1	1	1.91e+09
5	66.186745	.15579955	83849256	0	14.96952	0	0	0	0	34.17217	63.82159	-.0626529	0	1	1	1	2.00e+09
6	65.990799	.30700868	21711801	0	5.168491	0	0	0	0	35.10654	66.18674	.1557996	0	1	1	1	2.20e+09
7	66.564339	.1187246	33190580	0	14.23839	0	0	0	0	33.77972	65.9908	.3070087	0	1	1	1	2.20e+09
8	67.123444	.03404029	56653992	0	-.0668102	0	0	0	0	35.38532	66.56434	.1187246	0	1	1	1	2.21e+09
9	67.971848	-.11763714	38870701	0	28.40994	0	0	0	0	40.29598	67.12344	.0340403	0	1	1	1	2.30e+09
10	68.180908	-.55538148	1.438e+08	0	19.7527	0	0	0	0	49.07324	67.97185	-.1176371	0	1	1	1	2.45e+09
11	69.143707	-.57312924	3.293e+08	0	19.10728	0	0	0	0	57.49725	68.18091	-.5553815	0	1	1	1	2.49e+09
12	68.970528	-.76339012	4.904e+08	0	16.01782	0	0	0	0	61.23861	69.14371	-.5731292	0	1	1	1	2.60e+09
13	69.682831	-.78712857	3.573e+08	0	7.821668	0	0	0	1	64.03585	68.97053	-.7633901	0	1	1	1	2.59e+09
14	69.87664	-.60912734	2.319e+08	0	5.500435	0	0	0	0	58.82356	69.68283	-.7871286	3	1	1	1	2.54e+09
15	70.35041	-.8687107	3.906e+08	0	18.29058	1	0	3	1	59.08918	69.87664	-.6091273	0	1	1	1	2.58e+09
16	70.186455	-.92788559	2572690.3	0	20.83454	3	0	3	0	57.89317	70.35041	-.8687107	2	1	1	1	2.47e+09
17	70.231735	-1.0602565	2.684e+08	0	24.79277	2	0	5	2	59.26878	70.18645	-.9278856	25	1	1	1	2.65e+09
18	69.963829	-1.3021532	1.630e+08	8	19.96763	2	0	30	15	60.59563	70.23174	-1.060256	-2	1	1	1	2.26e+09
19	70.446022	-1.5379413	-98777856	-7	-5.540843	9	1	28	10	60.40869	69.96383	-1.302153	-14	1	1	1	2.78e+09
20	70	-1.6428697	-79957355	1	29.20137	1	0	14	8	60.70525	70.44602	-1.537941	-12	1	1	1	2.34e+09
21	59.754314	.41083121	60331623	.	.	.	.	.	.	.	.	.	.	0	0	0	.
22	62.541233	.25770181	60331623	0	35.346	0	0	0	0	57.82929	59.75431	.4108312	0	1	1	1	2.32e+09
23	62.904793	.45239666	60331623	0	-11.21467	0	0	0	0	58.62814	62.54123	.2577018	0	1	1	1	2.43e+09
24	62.674397	.1739163	60331623	0	19.86637	0	0	0	0	55.31162	62.90479	.4523967	0	1	1	1	2.45e+09
25	64.550774	.41419691	60331623	0	8.394527	0	0	0	0	54.12532	62.6744	.1739163	0	1	1	1	2.34e+09
26	65.310944	.2304792	60331623	0	.8910823	0	0	0	0	60.97667	64.55077	.4141969	0	1	1	1	2.62e+09
27	64.533195	.20999889	60331623	0	9.380639	0	0	0	0	56.64975	65.31094	.2304792	0	1	1	1	2.53e+09
28	65.044594	-.07557762	60331623	0	9.933816	0	0	0	0	63.47602	64.5332	.2099989	0	1	1	1	2.61e+09
29	65.684982	-.18289922	60331623	0	13.53599	1	1	0	1	50.51919	65.04459	-.0755776	0	1	1	1	2.56e+09
30	66.82235	-.70837975	60331623	0	-.5118015	0	0	0	0	57.9853	65.68498	-.1828992	0	1	1	1	2.47e+09
31	67.187576	-2.0343287	3.978e+08	0	-26.13083	0	1	0	0	53.91356	66.82235	-.7083797	0	1	1	1	2.55e+09

Appendix 2 Descriptive Statistic

```
. xtset id Y, yearly

Panel variable: id (strongly balanced)
 Time variable: Y, 2002 to 2021
         Delta: 1 year

. gen FDI TABT TATTour TATTran TAPT TAGT GDP TRADE PG PS
variable FDI already defined
r(110);

. sum FDI TABT TATTour TATTran TAPT TAGT GDP TRADE PG PS
```

Variable	Obs	Mean	Std. dev.	Min	Max
FDI	940	2.23e+09	4.51e+09	-1.02e+10	3.95e+10
TABT	940	4.879787	26.18342	0	400
TATTour	940	.0957447	.4467168	0	7
TATTran	940	1.510638	7.376162	0	80
TAPT	940	8.826596	47.00691	0	770
TAGT	940	5.101064	23.93587	0	287
GDP	940	7123.189	12503.73	8.508	73493.27
TRADE	940	71.84687	32.75493	4.127549	210.3743
PG	940	61.52993	16.48562	3	93
PS	940	-.6738506	.8866928	-3.180352	.9946502

Appendix 3 Descriptive Statistic with Data (n-1)

```
. sum FDI l1_TABT l1_TATTour l1_TAGT dTAPT dTATTran l1_TRADE l1_PG l1_PS dGDP
```

Variable	Obs	Mean	Std. dev.	Min	Max
FDI	940	2.23e+09	4.51e+09	-1.02e+10	3.95e+10
l1_TABT	893	5.049272	26.82408	0	400
l1_TATTour	893	.1007839	.4577796	0	7
l1_TAGT	893	5.291153	24.52354	0	287
dTAPT	893	.0783875	25.95871	-543	249
dTATTran	893	.0022396	4.401895	-53	53
l1_TRADE	893	71.91458	32.73051	9.955145	210.3743
l1_PG	893	61.41448	16.39377	25.09011	92.71522
l1_PS	893	-.6679766	.8881662	-3.180352	.9946502
dGDP	893	24.89512	886.196	-7840.982	7647.634

Appendix 4 General Descriptive Statistic with Data (n-1)

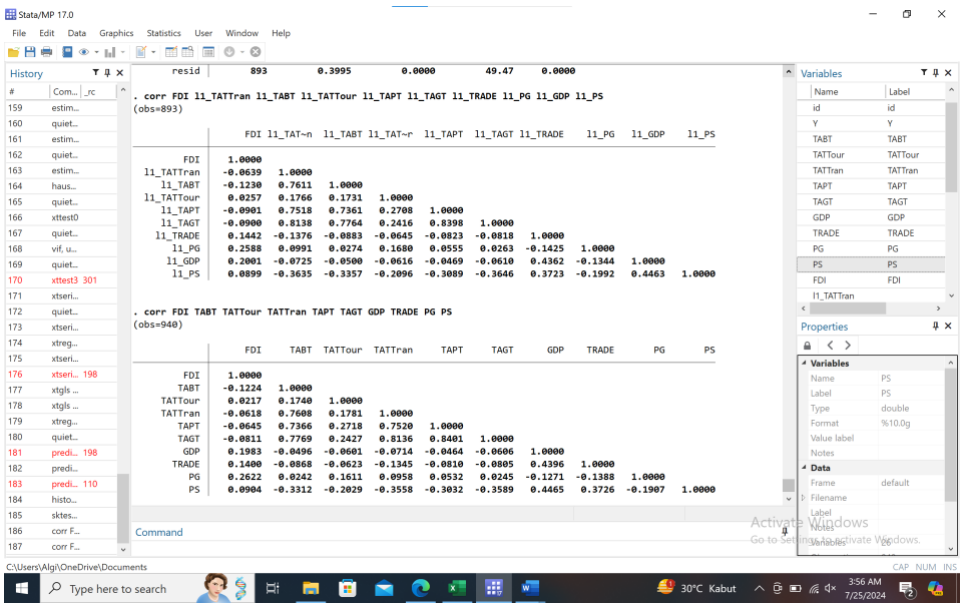
```
. xtsum FDI TABT TATTour TATTran TAPT TAGT GDP TRADE PG PS
```

Variable		Mean	Std. dev.	Min	Max	Observations
FDI	overall	2.23e+09	4.51e+09	-1.02e+10	3.95e+10	N = 940
	between		3.58e+09	-1.57e+09	1.35e+10	n = 47
	within		2.79e+09	-1.19e+10	2.90e+10	T = 20
TABT	overall	4.879787	26.18342	0	400	N = 940
	between		18.53237	0	116.55	n = 47
	within		18.68347	-111.6702	288.3298	T = 20
TATTour	overall	.0957447	.4467168	0	7	N = 940
	between		.1829201	0	.7	n = 47
	within		.4083787	-.6042553	6.545745	T = 20
TATTran	overall	1.510638	7.376162	0	80	N = 940
	between		5.200511	0	26.25	n = 47
	within		5.282962	-23.73936	55.26064	T = 20
TAPT	overall	8.826596	47.00691	0	770	N = 940
	between		32.41926	0	202	n = 47
	within		34.34978	-193.1734	576.8266	T = 20
TAGT	overall	5.101064	23.93587	0	287	N = 940
	between		18.72111	0	117.8	n = 47
	within		15.1505	-110.6989	174.3011	T = 20
GDP	overall	7123.189	12503.73	8.508	73493.27	N = 940
	between		12491.48	453.8003	62689.74	n = 47
	within		1861.051	-4284.684	22357.64	T = 20

Appendix 5 (Next figure) General Descriptive Statistic with Data (n-1)

TRADE	overall	71.84687	32.75493	4.127549	210.3743	N = 940
	between		29.81218	25.09298	158.9735	n = 47
	within		14.21631	19.35611	144.6954	T = 20
PG	overall	61.52993	16.48562	3	93	N = 940
	between		16.02137	30.92617	90.73788	n = 47
	within		4.503913	5.43052	74.99357	T = 20
PS	overall	-.6738506	.8866928	-3.180352	.9946502	N = 940
	between		.7687151	-2.372702	.7888519	n = 47
	within		.4552562	-2.236745	1.209912	T = 20

Appendix 6 Spearman Correlation (Original Data and Data n-1)



Appendix 7 TABT Stationary Test at Level

```
. xtunitroot llc l1_TABT, lags(1)

Levin-Lin-Chu unit-root test for l1_TABT

H0: Panels contain unit roots                   Number of panels  =     47
Ha: Panels are stationary                       Number of periods =     19

AR parameter: Common                            Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 8.00 lags average (chosen by LLC)

                     Statistic      p-value
 Unadjusted t       -13.3189
 Adjusted t*         -2.3620        0.0091
```

Appendix 8 TAPT Stationary Test at Level

```
. xtunitroot llc TAPT, lags(1)

Levin-Lin-Chu unit-root test for TAPT

H0: Panels contain unit roots                   Number of panels  =     47
Ha: Panels are stationary                       Number of periods =     20

AR parameter: Common                            Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 8.00 lags average (chosen by LLC)

                     Statistic      p-value
 Unadjusted t       -12.7200
 Adjusted t*         -2.2287        0.0129
```

Appendix 9 TATTran Stationary Test at Level

```
. xtunitroot llc TATTran, lags(1)

Levin-Lin-Chu unit-root test for TATTran

H0: Panels contain unit roots                   Number of panels  =     47
Ha: Panels are stationary                       Number of periods =     20

AR parameter: Common                            Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 8.00 lags average (chosen by LLC)

                     Statistic      p-value
 Unadjusted t       -12.0097
 Adjusted t*          2.2789        0.9887
```

Appendix 10 TATTran Stationary Test at First Different

```
. xtunitroot llc dTATTran, lags(1)

Levin-Lin-Chu unit-root test for dTATTran
-----------------------------------------

H0: Panels contain unit roots               Number of panels  =     47
Ha: Panels are stationary                   Number of periods =     19

AR parameter: Common                        Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 8.00 lags average (chosen by LLC)
------------------------------------------------------------------------------
                     Statistic      p-value
------------------------------------------------------------------------------
 Unadjusted t       -21.7315
 Adjusted t*         -2.1838        0.0145
------------------------------------------------------------------------------
```

Appendix 11 TAGT Stationary Test at Level

```
. xtunitroot llc l1_TAGT, lags(1)

Levin-Lin-Chu unit-root test for l1_TAGT
----------------------------------------

H0: Panels contain unit roots               Number of panels  =     47
Ha: Panels are stationary                   Number of periods =     19

AR parameter: Common                        Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 8.00 lags average (chosen by LLC)
------------------------------------------------------------------------------
                     Statistic      p-value
------------------------------------------------------------------------------
 Unadjusted t       -14.0501
 Adjusted t*         -3.5969        0.0002
------------------------------------------------------------------------------
```

Appendix 12 TATTour Stationary Test at Level

```
. xtunitroot llc l1_TATTour, lags(1)

Levin-Lin-Chu unit-root test for l1_TATTour
-------------------------------------------

H0: Panels contain unit roots               Number of panels  =     47
Ha: Panels are stationary                   Number of periods =     19

AR parameter: Common                        Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 8.00 lags average (chosen by LLC)
------------------------------------------------------------------------------
                     Statistic      p-value
------------------------------------------------------------------------------
 Unadjusted t       -18.2139
 Adjusted t*         -4.8376        0.0000
------------------------------------------------------------------------------
```

Appendix 13 GDP Stationary Test at Level

```
. xtunitroot llc GDP, lags(1)

Levin-Lin-Chu unit-root test for GDP
------------------------------------

H0: Panels contain unit roots               Number of panels  =     47
Ha: Panels are stationary                   Number of periods =     20

AR parameter: Common                        Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 8.00 lags average (chosen by LLC)
------------------------------------------------------------------------------
                     Statistic      p-value
------------------------------------------------------------------------------
 Unadjusted t        -2.3632
 Adjusted t*          0.7884        0.7848
------------------------------------------------------------------------------
```

Appendix 14 GDP Stationary Test at First Different

```
. xtunitroot llc dGDP, lags(1)

Levin-Lin-Chu unit-root test for dGDP
-------------------------------------

H0: Panels contain unit roots               Number of panels  =     47
Ha: Panels are stationary                   Number of periods =     19

AR parameter: Common                        Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 8.00 lags average (chosen by LLC)
------------------------------------------------------------------------------
                     Statistic      p-value
------------------------------------------------------------------------------
 Unadjusted t       -17.3291
 Adjusted t*         -5.7635        0.0000
------------------------------------------------------------------------------
```

Appendix 15 PS Stationary Test at Level

```
. xtunitroot llc l1_PS, lags(1)

Levin-Lin-Chu unit-root test for l1_PS
--------------------------------------

H0: Panels contain unit roots               Number of panels  =     47
Ha: Panels are stationary                   Number of periods =     19

AR parameter: Common                        Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 8.00 lags average (chosen by LLC)
------------------------------------------------------------------------------
                     Statistic      p-value
------------------------------------------------------------------------------
 Unadjusted t       -11.3668
 Adjusted t*         -5.1625        0.0000
------------------------------------------------------------------------------
```

Appendix 16 PG Stationary Test at Level

```
. xtunitroot llc l1_PG, lags(1)

Levin-Lin-Chu unit-root test for l1_PG
------------------------------------------

H0: Panels contain unit roots               Number of panels  =     47
Ha: Panels are stationary                   Number of periods =     19

AR parameter: Common                        Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 8.00 lags average (chosen by LLC)
------------------------------------------------------------------------------
                     Statistic      p-value
------------------------------------------------------------------------------
 Unadjusted t       -11.1664
 Adjusted t*         -8.1511        0.0000
------------------------------------------------------------------------------
```

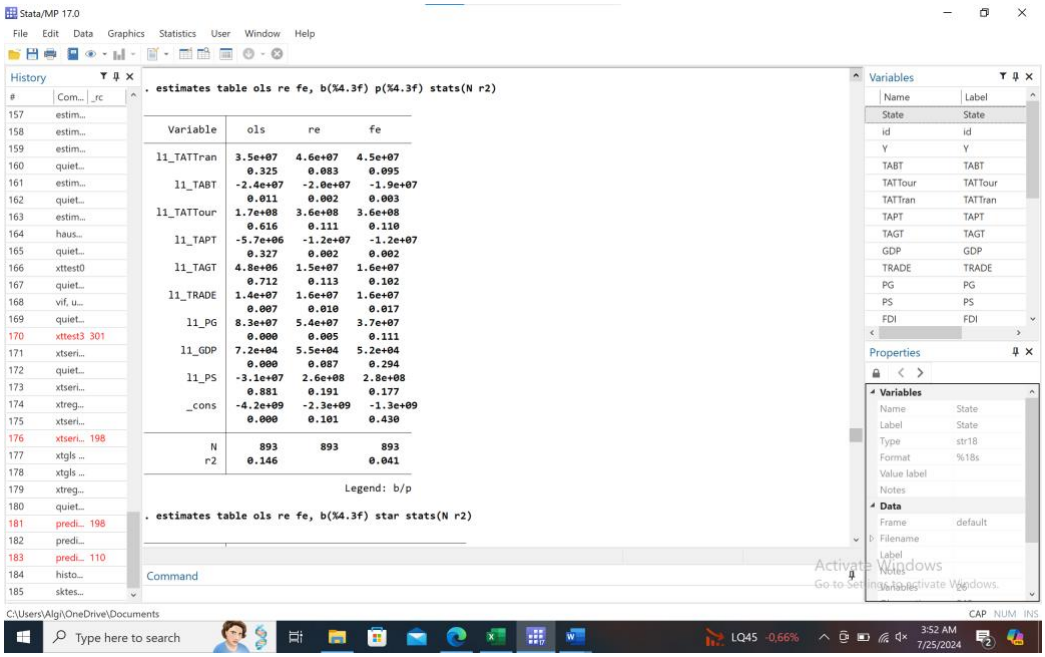
Appendix 17 TRADE Stationary Test at Level

```
. xtunitroot llc l1_TRADE, lags(1)

Levin-Lin-Chu unit-root test for l1_TRADE
-----------------------------------------

H0: Panels contain unit roots               Number of panels  =     47
Ha: Panels are stationary                   Number of periods =     19

AR parameter: Common                        Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 8.00 lags average (chosen by LLC)
------------------------------------------------------------------------------
                     Statistic      p-value
------------------------------------------------------------------------------
 Unadjusted t       -11.9727
 Adjusted t*         -4.9777        0.0000
------------------------------------------------------------------------------
```

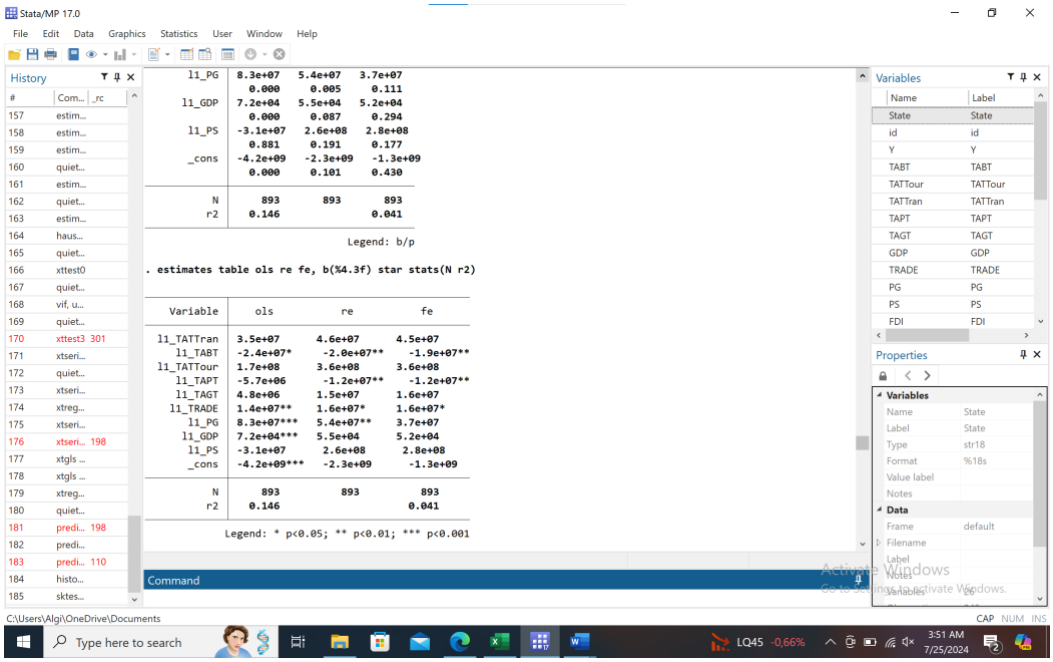
Appendix 18 FDI Stationary Test at Level

```
. xtunitroot llc FDI, lags(1)

Levin-Lin-Chu unit-root test for FDI
------------------------------------

H0: Panels contain unit roots               Number of panels  =     47
Ha: Panels are stationary                   Number of periods =     20

AR parameter: Common                        Asymptotics: N/T -> 0
Panel means:  Included
Time trend:   Not included

ADF regressions: 1 lag
LR variance:     Bartlett kernel, 8.00 lags average (chosen by LLC)
------------------------------------------------------------------------------
                     Statistic      p-value
------------------------------------------------------------------------------
 Unadjusted t       -11.9958
 Adjusted t*         -2.5523        0.0054
------------------------------------------------------------------------------
```

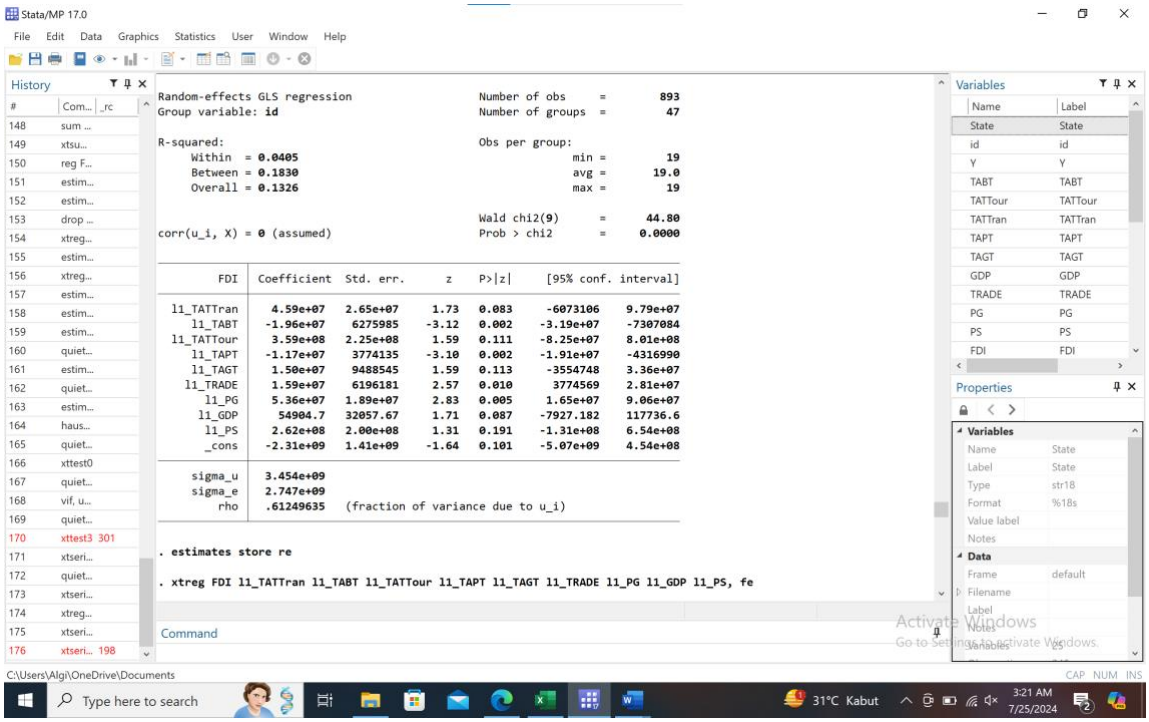
Appendix 19 Three model estimations



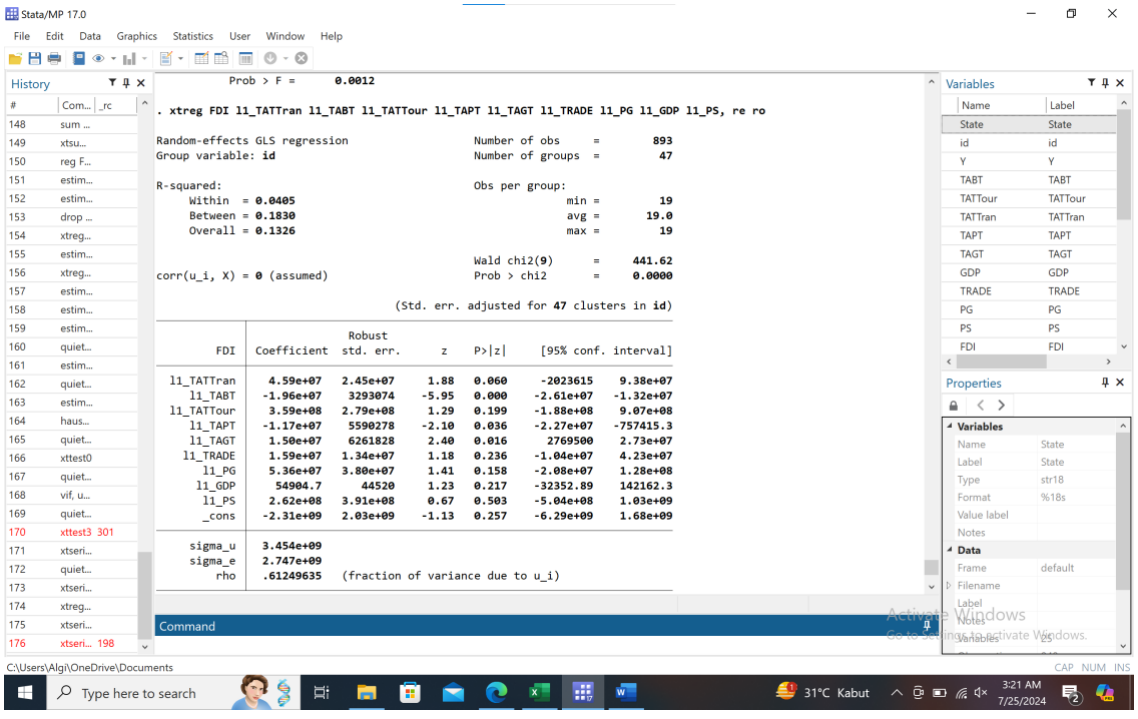
Appendix 20 Three model estimations with Significant Star



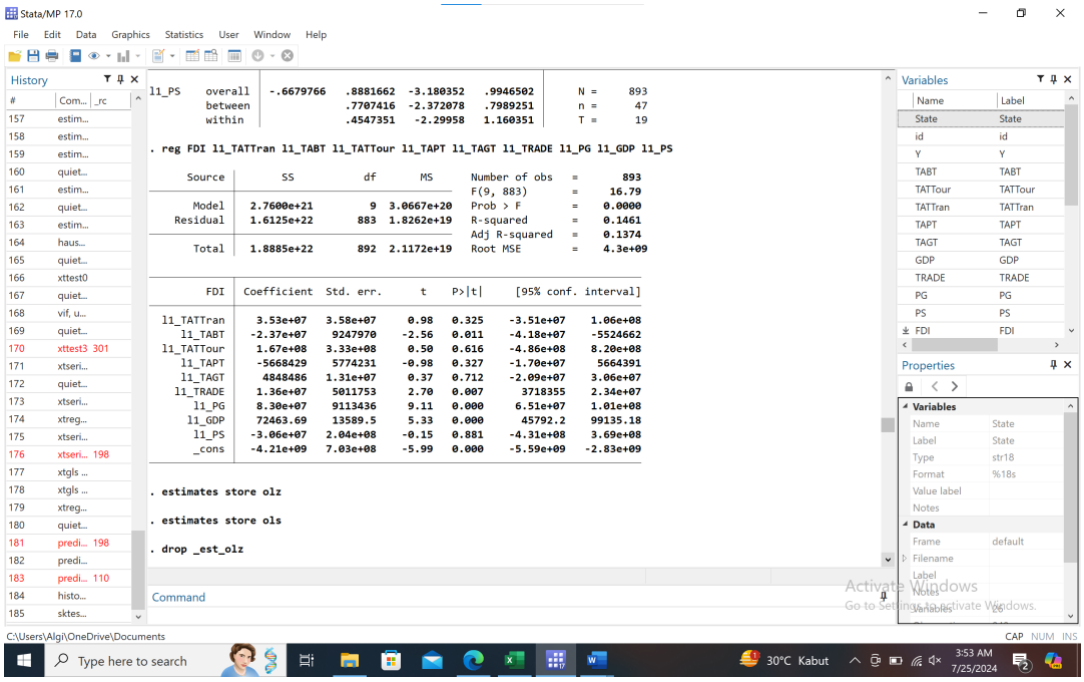
Appendix 21 Random Effect Model



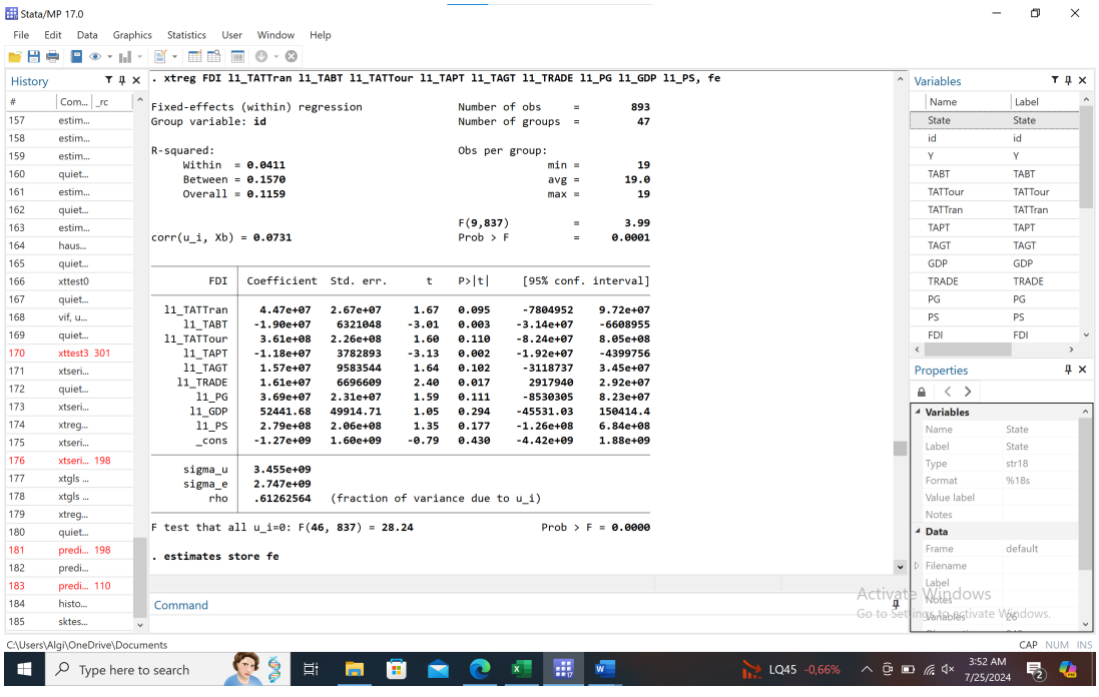
Appendix 22 Robustness of Random Effect Model



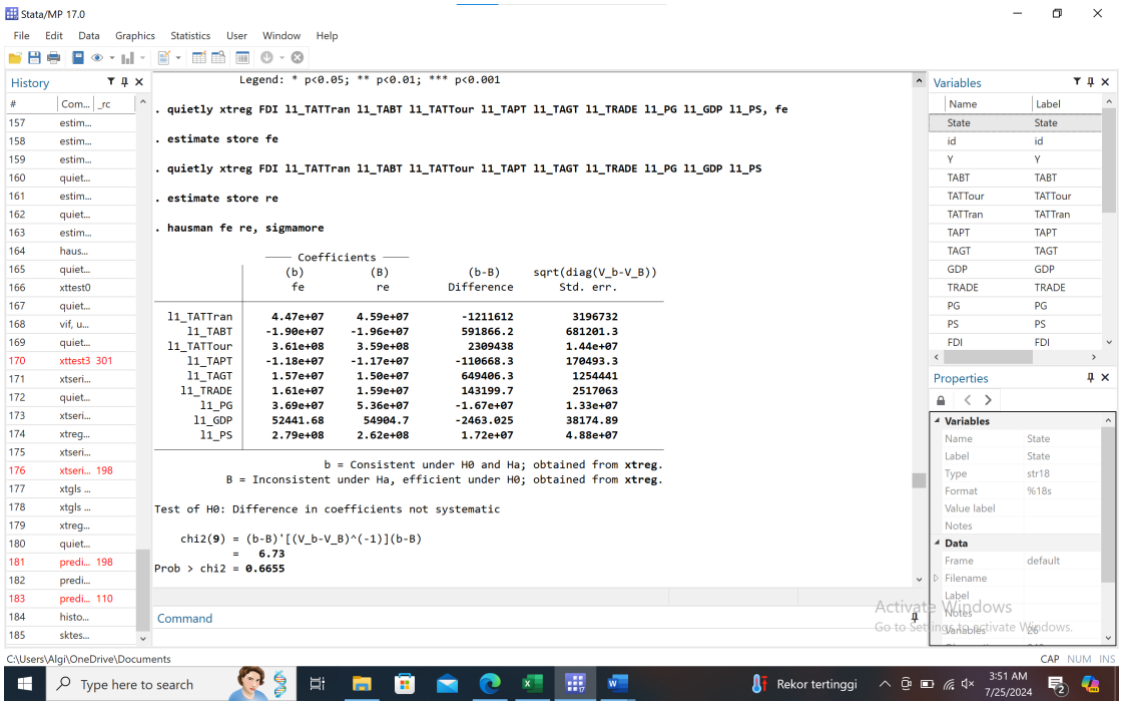
Appendix 23 Common Effect Model



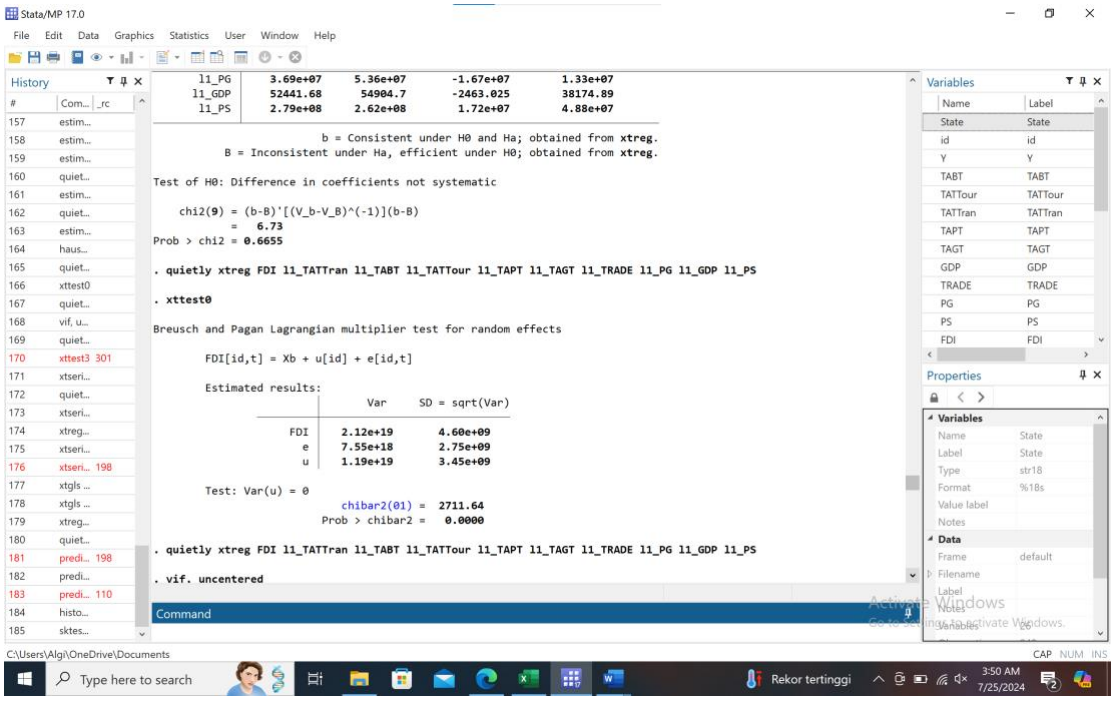
Appendix 24 Fixed Effect Model



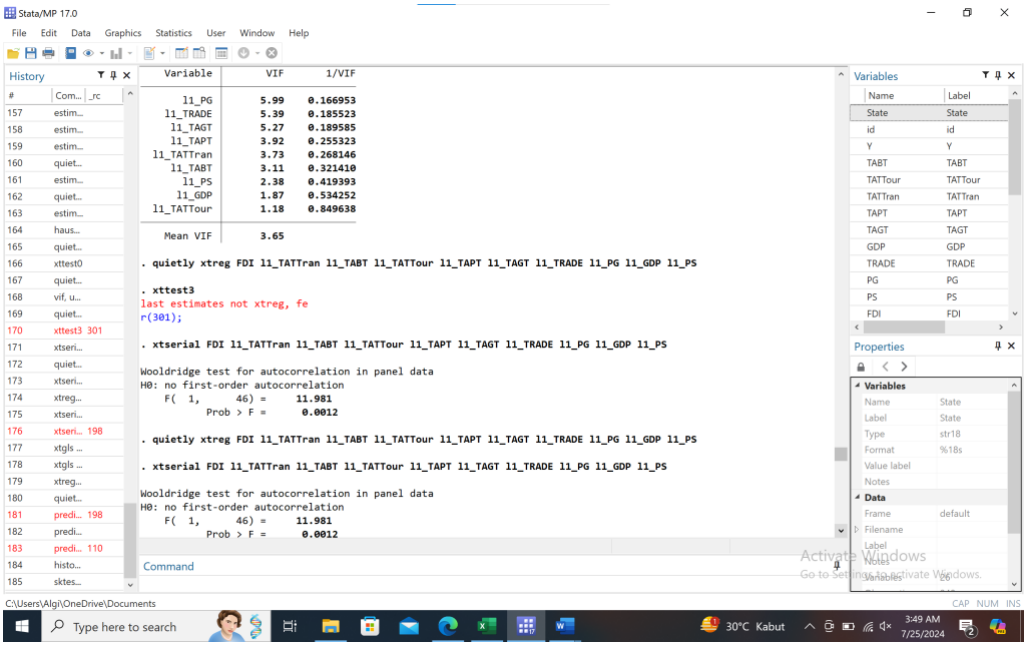
Appendix 25 Hausman Test



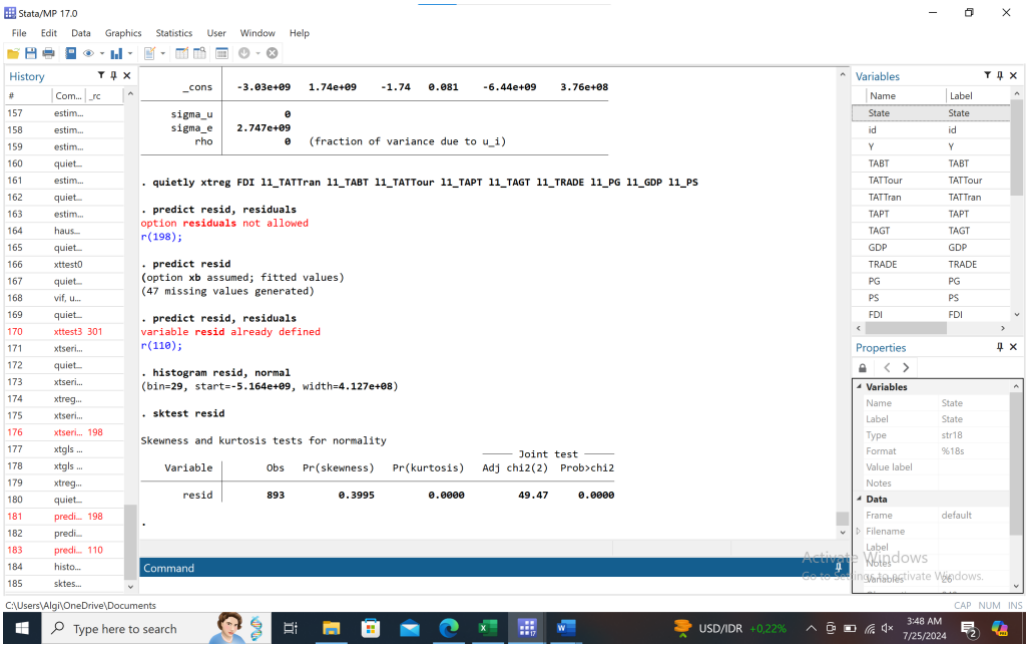
Appendix 26 Lagrange Multiplier Test



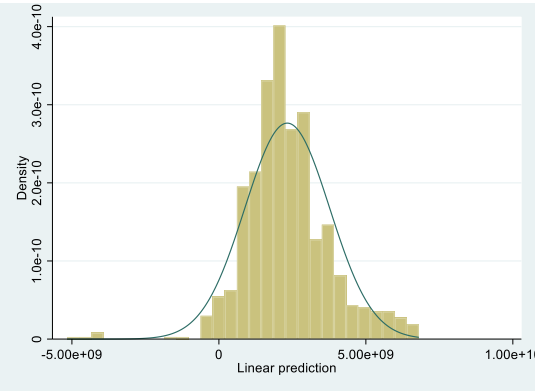
Appendix 27 Multicollinearity and Autocorrelation Test



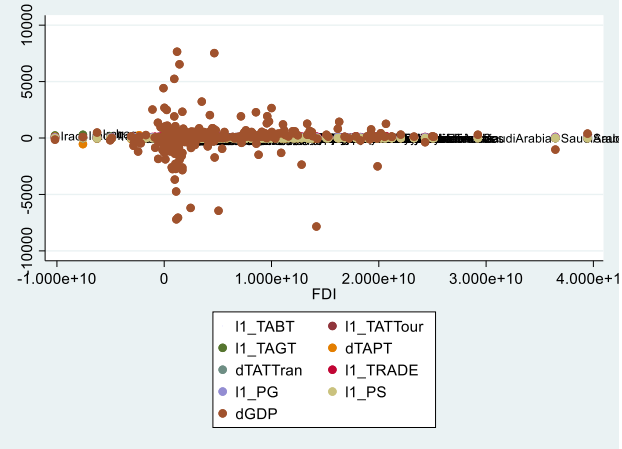
Appendix 28 Normality Test



Appendix 29 Histogram of Normality Test



Appendix 30 Scatter Plot in All Variables



Appendix 31 Scatter Plot of Avarage