The Effect of Institutional Quality on Foreign Direct Investment

(Pengaruh Kualiti Institusi terhadap Pelaburan Langsung Asing)

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ABSTRACT

This study analyzes the impact of institutional quality on foreign direct investment (FDI). We apply panel regressions on a sample of 13 Organization of Islamic Cooperation (OIC) countries over 2002 – 2019. The empirical results show that institutional quality plays a vital role in determining the flow of foreign investments. Specifically, better regulatory quality tends to increase the inflow. The findings further show that countries with higher Gross Domestic Products (GDP) have greater capacity to attract larger investment flows. Additionally, a lower tax rate is expected to encourage the inflow of foreign investments. Finally, there is evidence that corruption encourages greater inflow of FDI.

Keywords: Foreign direct investment; corruption; GDP; institutional quality; OIC countries
JEL: F21

ABSTRAK

Kajian ini menganalisis kesan kualiti institusi terhadap pelaburan langsung asing (PLA). Kami menerapkan regresi panel ke atas sampel 13 negara Pertubuhan Kerjasama Islam (PKI) sepanjang tahun2002 - 2019. Hasil empirikal menunjukkan bahawa kualiti institusi memainkan peranan penting dalam menentukan aliran pelaburan asing. Secara khusus, kualiti undang-undang yang lebih baik cenderung meningkatkan aliran masuk. Hasil kajian selanjutnya menunjukkan bahawa negara-negara dengan Keluaran Dalam Negara Kasar (KDNK) yang lebih tinggi mempunyai keupayaan yang lebih besar untuk menarik aliran pelaburan yang lebih besar. Selain itu, kadar cukai yang lebih rendah dijangka dapat mendorong kemasukan pelaburan asing. Akhirnya, terdapat bukti bahawa rasuah mendorong kemasukan PLA yang lebih besar.

Kata kunci: Pelaburan langsung asing; rasuah, KDNK; kualiti institusi; negara-negara Pertubuhan Kerjasama Islam

INTRODUCTION

The motivation for this study derived from the study of Elheddad (2018), who found the role of corruption in attracting Foreign Direct Investment (FDI) inflows in a sample of Gulf Cooperation Countries (GCC). The GCC basically comprised of Islamic countries with strong adherence to the Islamic religion which does not compromise with the issue of corruption. This paper will examine to a great extent whether countries with predominantly Islamic faith (such as the Organization of Islamic Cooperation (OIC) member countries) also consider the issue of corruption on religious ground in sourcing the inflows of FDI. In this study, the sampling will include several countries located in different regions, as opposed to Elheddad (2018) who focused only on the GCC countries in the Gulf region.

FDI is one of the financing sources at both the corporate business level and the state government level. At the corporate level, FDI provides fresh capital to expand business and improve production quality. Foreign investments also help the transfer of technology and increase market competitiveness of local firms as they can develop quality products and productions. At the state government level, FDI encourages economic growth since it is considered a means to create new economic activities, create job opportunities, reduce unemployment, and improve welfare of the population. One of the biggest challenges in economic development, especially for emerging economies, is the need for a substantial funding source to finance infrastructure and other state projects. Foreign investments can fulfill the needs of financing governments through participating in the funding such projects (Alfaro et al. 2004; Alguacil

et al. 2011; Madura 2010; Nor et al. 2015; Pegkas 2015). Further, FDIs are among the critical components of globalization and in the international integration of developing economies (Alguacil et al. 2011).

The OIC which comprised 57 countries are fortunate to have abundant natural and human resources with great potential for development. Presently, the OIC countries encompassed approximately 23% of the total world population. The demographic trend is positive and OIC population is projected to reach a quarter of the global population. According to a report from the United Nations Population Fund (UNFPA), the Muslim community in 1950 was 361 million and this was projected to reach 1.2 billion by 2000, out of 6.1 billion world population. The United Nations (UN) projects that the Muslim population will reach 2.6 billion out of 9.3 billion in the world population by 2050.

There are several justifications for investing in the OIC countries. First, some OIC economies possess globally significant crude oil and gas reserves and have accumulated significant financial assets in the global trade, even during the global economic crisis period (Aziz 2018). The prospects of benefiting from oil, gas, and other natural resource industries provide strong motivations for foreign investors to invest their capital in the OIC countries. These countries, which include Saudi Arabia, Iraq, Iran, Nigeria, Algeria, Malaysia, and Indonesia own between 66.2 to 75.9% of the world's total global oil reserves. Iraq alone has five times more oil reserves than the United States (Majoka et al. 2012). Ownership over these reserves gives some OIC members a huge advantage over natural resources compared to other countries. Foreign investors see this as strong motivation to invest in the OIC countries.

Second, OIC members are widely scattered, ranging from Indonesia in Southeast Asia, Turkey, and Albania in Europe, the GCC in the Gulf region, and many other members on the African continent. The vast spread provides geographical advantage for members of the OIC over control and power across maritime routes in international waters and strategic sea straits. Several OIC members are located almost in the middle of the globe, covering both sides in the Tropic of Cancer and Tropic of Capricorn, where most of the straits and water bays are located. The important maritime straits controlled by OIC countries include the Black Sea, Caspian Sea, Red Sea, Persian Gulf, Mediterranean, Arabian Sea, Bay of Bengal, Strait of Melaka, Java Sea, Sulawesi Sea, Banda Sea, and the Strait of Gibraltar located in between Morocco and Spain. History recorded that the vast early Muslim civilization pioneered and created the most substantial maritime trade network ever in the world by uniting the Mediterranean region with the Arab and Indian regions, that still exist to this day (Majoka et al. 2012).

The fact of corruption in OIC member countries needs to be considered. Various international research institutions, including Transparency International (TI), an institution based in Berlin that routinely releases the Corruption Perception Index (CPI) that measures the level of corruption in a country. Since 2012, TI has used new research instruments and the determination of CPI has involved several prestigious institutions including the Economist Intelligent Unit, Freedom Institute, Global Insight, Political & Economic Risk Consultancy, Political Risk Services, World Economic Forum and World Bank through World Governance Index (WGI). The index ranges from 0-100, with the higher scores indicating low level of corruption and vice versa. The positions of OIC countries on this index is revealing. In 2019, only six OIC countries were listed on the CPI out of more than 50. Regrettably, all six belong to ten countries with the lowest CPI levels.

Elheddad (2018) studied the determining factors of inward FDI with a sample of six GCC countries over the period 2003–2013. The study discovered trends that multinational companies (MNC) tend to carry out investment activities in countries that allow them to gain access to natural resources at more affordable and competitive prices, impose low taxes and with high levels of corruption. When bribery between businesspeople and government employees has become commonplace in the business process, an unhealthy government environment thus created can reduce production costs. The extraction of natural resources, taxation, and licensing can be resolved very efficiently by bribing several government employees to simplify these processes. These findings are also supported in Egger & Winner (2005).

This study examines the impact of institutional quality or country governance and selected macroeconomic factors on the inflow of the FDI. The quality of institutions is an essential factor to be considered in making an investment decision. Governments and foreign investors with intentions to invest in OIC member country are the stakeholders who will derive the most benefit from this study. This study is projected to highlight the significant role of corruption in the business process and institutional quality aimed at providing guidance, insights, or thoughts to assist in establishing policies concerning foreign investment.

LITERATURE REVIEW

FDI MOTIVATIONS

Dunning (1981) developed the ownership–location–internalization (OLI) paradigm in attracting foreign investments. The OLI paradigm asserts that to produce abroad, a firm utilizes the advantages of ownership (O), location (L), and internalization (I) it already has. The ownership advantage stems from the firm's ownership of intangible assets, such as technology, patents, and

skilled management. The location advantage arises from the assets that foreign markets supply, such as abundant natural resources, large market size, cheap production factors, and a friendly business environment. These assets attract firms to produce abroad. The internalization advantage emanates from the firm's engagement in production abroad itself rather than relying on the market, for example in the form of licensing or subcontracting, because of the higher transaction costs of the latter. While both ownership and internalization advantages are firm-specific, location advantages are host country-specific.

Dunning (1998) further explains the factors that drive a country to engage inward or outward FDI. MNC invest abroad in order to carry out a series of value-added activities to the relevant business processes. The first motivation is to reduce labor costs and minimize total production costs. Further, companies will acquire new market share to grow the business scope and identify new consumer targets. Goh and Wong (2011) discovered that the emergence of new attractive locations such as China, India, and Mexico, enriched with low-cost factors of production and with immense market size, have become the target areas for new inflows of FDI. The second motivation is to find the availability of new sources of natural resources at more affordable prices. When natural resource reserves in a country experience scarcity or are depleted in number, the prices of these resources will tend to rise higher. Production costs are becoming more expensive and investing companies will lose competitiveness in sourcing for natural resources or raw materials at lower prices. This factor provides strong motivation for MNC to invest and launch new branches in such countries with natural resources and at more affordable prices. The third motivation is in achieving an efficient business process. Some companies will achieve efficiency level by conducting business or investing in a foreign country to develop their production wings. The fourth motivation is to obtain strategic assets in the form of new technology or machinery that can facilitate the production process, in the suitable market, and at a reasonable price. Companies need specific machinery and technology to assist in the production process which may not be found in the local market or national industry. Thus, conducting FDI through opening a new company branch, a production branch, or developing a business wing in a particular country is expected to help acquire the desired essential machinery and technology.

Madura (2010) examined the business perspective on FDI and argued that MNC are inspired to invest abroad for two reasons: incentives related to costs and incentives associated with obtaining more income. The former incentives sought to achieve economies of scale by optimizing superior foreign production factors. Excellence in cost-related incentives include making profits from lower labor costs, obtaining raw materials

at competitive and more affordable prices, adopting technology in foreign companies at lower prices, and wisely reacting to fluctuations in the uncertainty of macroeconomic movements such as price increases in the production factors, tariff violations, taxes, and sudden increases in interest rates or capital cost.

Motives related to income may succeed in obtaining a new demand base for the products and services offered with market penetration in response to some constraints. These may include prohibitions or sanctions in doing business that prevent foreign companies from exploiting their potential and excellence. When there are changes in policies or regulations that hinder production activities, MNC will create a scenario to widen the production process in other countries which offer companies that excelled, the freedom in optimizing their excellence and production levels and in utilizing their monopoly profits. A well-established MNC has a level of efficiency in the production and marketing process that has yet to be attained by most domestic companies of the same industry. The MNC has succeeded in building a brand force to facilitate market penetration process, and in diversifying internationally to minimize business risk exposure through carrying out several business activities in various countries. This strategy is consistent with the portfolio diversification theory. When businesses of MNC in certain countries experience a decrease in terms of income and profits, it is expected that businesses in other countries can continue to generate profits and maintain profit trends to cover these losses.

INSTITUTIONAL QUALITY ON FDI

Institutional quality is an essential factor supporting the flow of foreign investments and ensuring stable economic growth. The quality of government influences investors' motivation to carry out investment activities locally. Foreign investors invest in countries that are considered to have proper bureaucratic system, responsive public services, political stability, healthy economic environment, and adequate security. Several studies highlighted the importance of institutional quality in attracting foreign capitals and suggest a number of reasons why their quality matter. Aziz (2018) found that institutional quality that offers low-risk uncertainty and high investment protection can create a better business environment that is attractive FDI inflows. Further, Institutional quality that promotes property rights and law enforcement can lead to better economic prospects, ease of doing business, and render a country more attractive to foreign investors. Conversely, poor institutional quality can be an obstacle to FDI inflows as it poses a threat to the invested capital. FDI has high sunk costs, making enterprises reluctant to enter foreign markets unless these markets have low levels of uncertainty and risk. Therefore, countries that

plan to attract more foreign capital should provide a conducive institutional environment of political stability and market efficiency, and with property rights.

Busse and Hefeker (2007) who studied determinants of foreign investment inflows using data sample of 83 developing countries, spanning 1984 to 2003, found that the high quality of bureaucracy and institutional frameworks encouraged the inflows foreign investment. Asamoah et al. (2016) examined how institutional quality influenced foreign investment inflows in 40 countries in Sub-Saharan Africa during the 1996-2011 period. They concluded that institutional quality at governmental, institutional, company and industry levels, increased foreign investors' motivation to diversify investment portfolios in the host countries. Herrera-Echeverri et al. (2013) studied the relationship between State governance and inward foreign investments in 87 countries. They discovered a positive relationship and significant influence between institutional quality and FDI inflows. Quazi (2007) found that the entry of investments was very dependent on the policies adopted by the host government. Investment inflows are negatively correlated with changes in government policies that hinder international trade and adopt or practice more regressive taxation, stricter foreign investment regulations, a more repressive financial system, price controls, unnatural wages, and excessive bureaucracy.

THE IMPACT OF CORRUPTION ON FDI

The impacts of corruption on FDI vary across countries and sectors. Past literature on this issue can generally be grouped into three main strands. The first group considered corruption as 'grabbing-hand,' which means that corruption is an additional tax on MNC that increases the cost of doing business, and thus discouraging FDI inflows. Some surveys also found that investing in more corrupted countries increased the cost by 20% compared with less corrupted ones (Barassi & Zhou 2012). The contention that foreign firms are less likely to invest in corrupted countries is supported by many studies (Aziz 2018; Busse & Hefeker 2007; Elheddad 2018; Gastanaga et al. 1998; Grosse & Trevino 2005; Hayakawa et al. 2013; Kayalvizhi & Thenmozhi 2018). Aziz (2018) examined the nexus of institutional quality and FDI inflows in 16 Arab economies and established a negative impact of corruption on the inflow of investment. Using the same proxy of corruption from the International Country Risk Guide (ICRG), Hayakawa et al. (2013) found that corruption is inversely related to FDI inflows. Similar results were shown by Busse and Hefeker (2007) who analyzed the nexus of political risk, institutions and FDI in a sampling of 83 developing countries, spanning 1984 to 2003. They discovered that corruption rates produced negative influence since they tended to create unsafe business environment. Gastanaga

et al. (1998) however maintained that absence (freedom from) of corruption will help boost inflow of FDI.

The second group alleged that corruption could yield a positive impact on FDI 'helping-hand'. When foreign firms attempt to bribe the local government, it is not difficult for them get around the local laws and regulations. This situation could be acceptable to developing countries (Elheddad 2018). Egger and Winner (2005) examined the nexus of corruption and FDI flows for a sample of 73 countries over the period 1995 to 1999 and discovered a positive linkage between corruption and FDI. In the presence of excessive regulation and other administrative controls in the host country, they reasoned that corruption may act as a "helping hand" that may actually facilitate FDI inflows. The third group found non-significant effect of corruption in attracting FDI. Gupta and Ahmed (2018) also examined the impact of corruption on FDI in five South Asian economies, spanning 1998 to 2015. They established that corruption is inconsequential in determining FDI inflows. Similar findings were reported in studies by Sánchez-Martín et al. (2014) and Nejad et al. (2018).

INSTITUTIONAL QUALITY MEASURES

There are various sources and measures of institutional quality in the related literature. The first one is the measure of institutional quality from the World Governance Indicators (WGI), mostly referred to as Kaufmann et al. (2010). This measure has been widely used in the literature (Abdioglu et al. 2013; Asamoah et al. 2016; Herrera-Echeverri et al. 2013; Jadhav & Katti 2012) to be the proxy of institutional quality or country governance. WGI represent aggregate and individual government indicators for more than 200 countries and territories since 1996. This governance indicators are drawn from six dimensions of governance including, Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption.

The second measure of institutional quality is derived from the index of Economic Freedom of the World (EFW) from the Fraser Institute. Alguacil et al. (2011) used the EFW as the proxy of the quality of institutions. Some researchers interpret this index as an indicator of the country's condition in attracting foreign investment flows. The index measures the degree of economic freedom present in five major areas in 26 components: The areas include [1] Size of Government; [2] Legal System and Security of Property Rights; [3] Sound Money; [4] Freedom to Trade Internationally; [5] Regulation. Comprehensive data are available only with a two-year lag, so the index itself has a two-year lag. Many of these components are themselves made up of several sub-components. In total, the

index comprises 44 distinct variables. All variables come from third-party sources, such as the ICRG, the Global Competitiveness Report, and the World Bank's Doing Business project, so that the authors' subjective judgments do not influence the index. This also creates transparency and allows researchers to replicate the index. Bengoa and Sanchez-Robles (2005) maintain a higher value of this index will imply a more outward-oriented and less regulated economy. Thus, countries with more substantial score of EFW are more welcome to receive FDI. The EFW captures a wide array of aspects mainly related to institutional background and other policy-relevant that might also influence the FDI-growth nexus (such as openness to trade or the degree of financial development). The inclusion of an interaction term of this index with FDI allows us to empirically check whether the quality of institutions increases the potential benefits from FDI in boosting the economic growth.

The third measure of institutional quality is derived from the ICRG established by the Political Risk Services (PRS) Group. Mina (2007) applies the indicator from the ICRG to be the proxy of institutional quality. The rule of law indicator is used as a proxy for institutional quality. It reflects the degree to which the citizens of a country are willing to accept the established institutions to make and implement laws and mediate disputes. The maximum score is a mark where lower ratings indicate a tradition of depending on physical force or illegal means to settle claims. Higher scores indicate sound political institutions, a reliable court system, and provisions for an orderly succession of power (ICRG, 2016). The ICRG is also applied in Busse and Hefeker (2007) and Asiedu and Lien (2011) to represent institutional quality. The model used several indicators of political risk to measure the impact of institutional quality on deriving more inward FDI.

The fourth measure is the combination of several indexes with some treatments. Aziz (2018) combined several indexes to measure the quality of institutions and applied ease of doing business from the World Bank, economic freedom from the Fraser Institute, and ICRG from the Political Risk Services (PRS) Group. Several indicators are chosen to establish a new index of institutional quality.

TAX ON THE FLOW OF INWARD FDI

Tax as the primary source of country revenue has a critical and strategic role in fulfilling the State Budget's financing needs. Taxes can be used to increase development activities in certain areas so that an equitable distribution of development and income can be achieved. FDI reacts negatively to an increase in the corporate tax. Gastanaga et al. (1998) investigated the impact of various policies on the flow of inward foreign investments by studying 49 less developed countries in

25 years and found the significant negative effects of the marginal tax on the inflow of domestic FDI. Wei (2000) studied the effect of corruption and tax policies on foreign investment flows. The results show that a rise in either the tax rate on multinational corporations or the corruption level in a host country reduces the flow of inward FDI. The adverse nexus between tax and FDI inflows are in line with the argument that lowering the corporate tax rate is an effective policy instrument to boost the flow of FDI in host countries. Similar results are also obtained by Billington (1999), Choi (2003), Fedderke and Romm (2006), Quazi (2007), and Ang (2008).

Chen et al. (2016) studied the role of home country institutions in affecting the outward FDI of Malaysia. The empirical ARDL model reveals that GDP, exchange rate, openness to trade, and corporate tax rate are the key drivers of outward FDI from Malaysia. More importantly, as one of the institution factors, the corporate tax rate is positively related to outward FDI, signifying that a high tax rate would prompt local firms to engage in investment abroad as a sign of escape response. This reflects that international expansion appears to be an exit strategy from the home country instead of an entry strategy into foreign markets. These findings highlighted the internationalization strategy of firms in response to the change in tax policies.

OTHER MACROECONOMIC VARIABLES

Macroeconomic factors have an essential role in attracting foreign investment. Numerous studies examined the relationship between the inflow of FDI and country-specific macroeconomic variables such as inflation, exchange rate, and national GDP. Inflation is a macroeconomic variable that signals information concerning economic stability and price level. Inflation negatively affects the inflow of inward FDI. Higher inflation leads to a decrease in the real value of money, making the price of goods and services more expensive and consequently depresses the aggregate demand for available output. Higher inflation will further increase production costs as in obtaining raw materials, and paying for labor costs becomes more expensive, thus reducing the motivation of foreign investors to invest in countries with a high level of inflation (Asamoah et al. 2016; Bengoa & Sanchez-Robles 2003; Boateng et al. 2015; Kayalvizhi & Thenmozhi 2018; Kok & Ersoy 2011; Madura 2010).

Kosteletou and Liargovas (2000) contended that there is no apparent nexus of exchange rate volatility on FDI because of its impact, which can be positively correlated or vice versa. This depends on the benefits that will be gained by investors. Appreciation in the local currency makes the cost of acquiring factors of production higher and vice versa. As the foreign currency depreciates, firms and corporations will have to

pay higher wages or salaries and acquire raw materials at more expensive prices (Madura 2010). Boateng et al. (2015), Asamoah et al. (2016), Frenkel et al. (2004) and Yol and Teng (2009) found a significant positive relationship between local currency exchange rates and inward FDI. Higher exchange rates implies local currency depreciation and thus increase the motivation of foreign investors to invest in the host country. In contrast, a declining local currency exchange rate or currency appreciation likewise reduces this motivation. Appreciation of the local currency increases the cost of production and similarly reduces foreign investors' motivation to invest. This view, however, contradicts with findings in Sirin (2017), Grosse and Trevino (2005) and Ang (2008). Sirin (2017) studied determinants of FDI in Turkey and found that the exchange rate was negatively and significantly correlated with the inflow of foreign investments. Correspondingly, scattered evidence of negative relationships were found in Grosse and Trevino's (2005) studies in 13 European countries and Ang (2008) in Malaysia.

The national output or market size reflects a country's economic development. One of the measures of market size is through estimating the GDP, which describes the value of goods and services produced by the state within a particular year. Higher national income illustrates that the higher income of the population will thus influence the consumption pattern and therefore companies' profits. Higher GDP reflects the realization of the country's economic objective and is indicative of a respectable economic environment. Thus, the level of national output or market size positively affects the inflows of foreign investments. This observation is supported in studies by Gastanaga et al. (1998), Sarwedi (2002), Bengoa and Sanchez-Robles (2003)foreign direct investment (FDI, Frenkel et al. (2004), Grosse and Trevino (2005), Kimino et al. (2007), Jaafar and Hossain (2007), Ang (2008), Kok and Ersoy (2011), Meon and Sekkat (2012), Kolstad and Wiig (2012), Boateng et al. (2015), Asamoah et al. (2016), Chenaf-Nicet and Rougier (2016), Muslim (2016), Al-jaifi et al. (2016), Kayalvizhi and Thenmozhi (2018), Aziz (2018), Nejad et al. (2018) and Xu (2018).

METHODOLOGY

This study examines the influence of determining factors on FDI in selected 13 OIC countries with higher populations, including Indonesia, Pakistan, Nigeria, Bangladesh, Egypt, Iran, Turkey, Uganda, Algeria, Iraq, Morocco, Arab Saudi, and Malaysia. Several OIC countries with high populations including Sudan, Afghanistan, and Uzbekistan, are excluded from the list due to data limitation. Population size is an essential factor in attracting FDI. The population represents the host country's market potential as countries with larger

populace have bigger market size and thus attract more FDI (Hayakawa et al. 2013; Ushijima 2013). The sample list of populous OIC member countries was sourced from the SESRIC Database. This study used secondary data in the form of annual frequency from 2002 to 2019.

Details of each explanatory variable are as follows: The use of GDP at purchaser's prices is for measuring economic output and market size. GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes, and minus any subsidies not included in the value of the products. It is calculated without deductions for depreciation of fabricated assets or depletion and degradation of natural resources. Data are in constant 2010 USD. Dollar figures for GDP are converted from domestic currencies using 2010 official exchange rates. Inflation is used to measure monetary policy execution as stable inflation rates indicate a successful monetary policy implementation. Inflation, as measured by the consumer price index, reflects the annual percentage change in the cost to the average consumer in acquiring a basket of goods and services that may be fixed or changed at specified periods, such as yearly intervals. The Laspeyres formula is generally used. The exchange rate measures the preference of foreign investors. Appreciation of the local currency increases the cost of production and consequently reduces foreign investors' motivation to invest in the host country. Official exchange rate is applied for the model and refers to the exchange rate determined by national authorities or the rate determined in the legally sanctioned exchange market. It is calculated as an annual average based on monthly averages (local currency units relative to the USD). Inflation (Inf), GDP (constant), and exchange rate (ER) are accessed from the World Bank national accounts data, and OECD National Accounts data files (https://data.worldbank.org) and used as macroeconomic condition proxies. Corporate Tax database (TAX) established by the KPMG International is used as a proxy of tax borne by local corporations. Political Stability and Absence of Violence (PS) and Regulatory Quality (RG) are derived from the Worldwide Governance Indicators (WGI). The variables score from 0 to 100, where higher scores indicate better institutional quality (Kaufman et al. 2010). The variable of corruption is derived from Corruption Perceptions Index (COR) established by the Transparency International. The corruption index scores from 0 to 100, where a score of zero indicates a highly corrupted country. The TAX, PS, RG, and COR applications are the proxies for institutional qualities.

The dependent variable of FDI refers to direct investment equity flows in the reporting economy. It is the sum of equity capital, reinvestment of earnings, and other capital. Direct investment is a category of cross-border investment associated with a resident in one economy having control or a significant degree of influence on the management of an enterprise

that is resident in another economy. Ownership of 10 percent or more of the ordinary shares of voting stock is the criterion for determining the existence of a direct investment relationship. Study data are in current USD which are accessed from the World Bank national accounts data, and OECD National Accounts data files (https://data.worldbank.org)

This quantitative research applies the Panel Regression using the Fixed Effect approach. The effects of the omitted country-specific variables are treated as fixed constants over time. Although this provides consistent (but not necessarily efficient) parameter estimates, it wipes out any time-invariant information (Egger & Winner 2005), thus, the unobserved country effect (Heterogeneity) can be controlled (Wooldridge 2002). For robustness, the model introduces a lag of 1 and the issue of endogeneity using instrumental variable and first difference GMM estimators. The model also applied a random effect. We also introduce two dummy variables where M indicates a middle-income country (1 = yes) while H indicates a high-income (1 = yes) country. The low-income country is represented when M and H equal zero. This introduction aims to identify the preference of foreign investors in directing their investment in a country with a specified level of income. The empirical model to examine the influence of dependent variables on inward FDI is as follows:

$$FDI_{it} = \alpha + \beta_1 GDP_{it} + \beta_2 ER_{it} + \beta_3 INF_{it} + \beta_4 TAX_{it} + \beta_5 PS_{it} + \beta_6 RQ_{it} + \beta_7 COR_{it} + \beta_8 M_{it} + \beta_9 H_{it} + \varepsilon_{it}$$

Note: FDI = Inward Foreign Direct Investment, α = constant or intercept, β = coefficient slope, GDP = Gross Domestic Product, ER = Local Currency against USD, INF = Consumer Index of inflation, TAX= corporate tax, PS = Political Stability and Absence of Violence, RQ = Regulatory Quality, COR = Corruption, i = i-unit, t = t period, ε = residual (*error term*). The expected sign for coefficient $\beta_1, \beta_2, \beta_5, \beta_6$ and β_7 is positive, while for β_3 and β_4 it's negative. Higher economic output, higher value of local currency against USD (depreciation of local currency), higher scores of PS, higher scores of RQ and higher scores of COR will encourage the FDI flows (as higher score of COR indicates a less corrupted country). Conversely, higher inflation and tax will discourage FDI flows.

RESULT AND ANALYSIS

The descriptive statistics are presented in Table 1. Overall, corporate tax for the 13 selected OIC countries ranges between 15.00 to 42.00 percent, with the average tax that must be borne by local corporations at 26.80 percent. This average tax value does not consider FDI incentives in tax reduction. The average values of variable 'Political Stability and Absence of Violence' and 'Regulatory Quality' are 19.02 and 39.41, respectively. These values are below 50%, indicating that the quality of institutions in the sample is still below what it is expected to be. In the case of corruption, the average is 18.89, indicating that on average, the selected OIC countries have serious corruption problems.

TABLE 1. Descriptive statistics (common sample)

	FDI	GDP	ER	INF	TAX	Political Stab.	RQ	Corruption
Mean	6.18E+09	3.58E+11	1404.021	11.9457	26.79609	19.02154	39.41102	18.89223
Median	3.50E+09	2.33E+11	44.46765	6.397695	27.5	15.63981	42.71844	16
Maximum	3.95E+10	1.25E+12	14236.94	81.86266	42	66.13757	75.96154	53
Minimum	-6.26E+09	1.13E+10	1.301522	-2.093333	15	0.473934	7.211538	1.2
Sum	1.11E+12	6.41E+13	251319.8	2138.28	4796.5	3404.855	7054.573	3381.71
Observations	179	179	179	179	179	179	179	179

Source: Authors' calculations.

TABLE 2. Pairwise correlation

	FDI	GDP	ER	INF	TAX	Political Stab.	RQ	Corruption
FDI	1.000	0.634	0.266	-0.189	-0.428	0.311	0.462	0.105
GDP	0.634	1.000	0.435	-0.200	-0.409	0.076	0.376	0.312
ER	0.266	0.435	1.000	-0.135	0.028	0.014	0.042	0.005
INF	-0.189	-0.200	-0.135	1.000	0.140	-0.275	-0.362	-0.228
TAX	-0.428	-0.409	0.028	0.140	1.000	-0.184	-0.227	-0.302
Political Stab.	0.311	0.076	0.014	-0.275	-0.184	1.000	0.750	0.167
RQ	0.462	0.376	0.042	-0.362	-0.227	0.750	1.000	0.178
Corruption	0.105	0.312	0.005	-0.228	-0.302	0.167	0.178	1.000

Source: Authors' calculations.

The Pairwise Correlation is presented in Table 2. It is the approximation of the relationship between FDI with other variables in the model. In general, we would expect that all variables that include GDP, Exchange Rate, Political Stability, Regulatory Quality, and Corruption are positively related to FDI inflows except Inflation and Tax. The correlation of exchange rate, inflation, and tax is negative on the FDI.

Corruption has a negative coefficient on inward FDI, which implies that reduced corruption in OIC countries will thus decrease inward FDI flows (as a higher COR score in such countries signifies less corruption). This indicates that foreign investors prefer to invest in countries with rampant corruption. This result appears to be robust and consistent as shown in Tables 3 and 4. It thus supports the argument in the second group, which maintains that corruption plays the role of 'helping hand' in attracting FDI inflows (Egger & Winner 2005). This result also supports Elheddad's (2018) findings that showed corruption, in a sample of GCC oil-producer countries, playing the 'helping hand' role and attracting inward foreign investments. The result however contradicts studies by Sánchez-Martín et al. (2014), Gupta and Ahmed (2018), and Nejad et al. (2018) which established that corruption plays no role in attracting FDI. The negative impact of corruption on inward FDI opposes the argument of the first group who believe that foreign investors and firms are less likely to invest in corrupt countries (Gastanaga et al. 1998; Grosse & Trevino 2005; Busse & Hefeke 2007; Hayakawa et al. 2013; Aziz 2018; Kayalvizhi & Thenmozhi 2018).

Further, the pairwise correlation (Table 2) and regression results (Table 3 and 4) indicate a different sign. COR is positively correlated to the FDI; hence, less corruption will attract more FDI flows. On the other hand, the regressions show the opposite effect of corruption. COR negatively affects the FDI; hence higher corruption encourages more inward FDI flows. The opposing results between pairwise correlation and coefficient regression may be explained as follows: Pairwise correlation is a more concise (single value) summary of the relationship between two variables, while regression provides a more detailed analysis that includes an equation used for prediction and optimization. The helping hand role of corruption on FDI may be explained due to the low level of institutional qualities, which may embolden corruption, bribery, and tax avoidances. Thus, when combined with other institutional qualities the regression coefficient becomes negative, especially when the average OIC institutional quality is low.

Tax is negatively related to inward FDI, indicating that a lower tax rate will encourage the inflow of more foreign investments. The negative effect of corporate tax on FDI is consistent in all models and appears to be robust from all model specifications. This result supports the findings of Gastanaga et al. (1998), Billington (1999), Wei (2000), Choi (2003), Fedderke and Romm (2006), Quazi (2007), Ang (2008) and Chen et al. (2016). A tax incentive policy is expected to attract foreign investment interest whereas imposing a higher tax rate will hinder the inward flow of such investments. The study by Devereux et al. (2008)and whether such competition can explain the fall in statutory tax rates in the 1980s and 1990s. We develop a model in which multinational firms choose their capital stock in response to an effective marginal tax rate (EMTR revealed that OECD countries compete with each other over the corporate tax rate to attract the flows of inward foreign investments.

Regulatory quality, as a proxy of institutional quality, positively and significantly affects the inflow of foreign investments, and this result is verified robust and consistent. Refer Models 3, 6 and 7, except Model 4. Better regulatory quality increases the confidence and motivation of investors, thus encouraging the inflow of FDI. The findings act as additional evidence which are consistent with the results of Busse and Hefeker (2007), Mina (2007), Herrera-Echeverri et al. (2013), Asamoah et al. (2016), Kayalvizhi and Thenmozhi (2018) and Aziz (2018). Preserving fitting regulations and country governance is necessary. Despite the many problems that hinder the development of institutions and country governances in the OIC countries, such as problems of corruption, fraud, complicated and heavily bureaucratic system, foreign investors weigh these factors carefully before making each investment decision. Uddin et al., (2019) found specific institutional determinants, such as the size of the government, legal structure and secured property rights, freedom to trade and civil liberty, strongly influencing the inflow of FDI in Pakistan and are positively correlated. Political Stability and Absence of Violence, as another proxy of institutional quality, is seen to be positively related to the FDI flows, but specifically in Model 5. This finding is consistent with those of Muslim (2016) and Kayalvizhi and Thenmozhi (2018). They commonly demonstrate the important role of these variables in positively affecting the FDI inflows. They also support the finding of Abdel Latif (2019) who revealed strong evidence that the Arab Spring incidence and ensuing political turmoil have caused FDI flow to plunge in nineteen MENA countries sampled in his study. Prudent investors will avoid investing in countries with high-risk exposures and will instead be motivated to conduct investment in countries with a stable political environment. The motivation for investment avoidance, in countries associated with high risk exposure, is to minimize potential losses and protect the value of invested assets or capital.

The positive coefficient of GDP and its consistency in all models show that economic output or market size play a significant role in determining the inflow of foreign investments. The strong impact of GDP, with a positive correlation on the inflow of foreign

TABLE 3. Regression result (A)

Model/Variable	Model 1 (FE)		Model 2 (FE)		Model 3 (FE)		Model 4 (FE)	
	Coefficient	t-statistics	Coefficient	t-statistics	Coefficient	t-statistics	Coefficient	t-statistics
ln GDP	2.704842***	6.6381			2.351414***	5.601326		
ln ER	-0.75637***	-2.7096			-0.386425	-1.291972		
INF	0.0047	0.8670			0.006105	1.143091		
TAX	-0.0994***	-5.5799			-0.09112***	-5.00327		
Pol. Stab.					0.00095	0.091669		
RQ					0.032212***	2.797019		
Corruption	-0.02168***	-4.2156			-0.02119***	-4.10696		
Lag (1) ln GDP			1.7798***	4.2173			1.550487***	3.483468
Lag (1) ln ER			-0.4083	-1.3633			-0.207153	-0.635095
Lag (1) INF			0.0000	-0.0072			0.001125	0.195208
Lag (1) TAX			-0.0636***	-3.6262			-0.06203***	-3.42994
Lag (1) Pol. Stab.							0.004689	0.466179
Lag (1) RQ							0.014786	1.256716
Lag (1) Corruption			-0.017***	-3.2021			-0.01575***	-3.010557
Constant	-42.7502***	-4.2126	-20.848**	-1.9834	-36.5381***	-3.558146	-16.39872	-1.510153
F-statistics	28.32697***		24.242***		26.85971***		21.77067***	
Adjusted R2	0.7200		0.69786		0.732483		0.732646	
Durbin Watson	1.1567		1.356138		1.180342		1.379275	
Adjusted Obs.	171		162		171		162	

Source: Authors' calculations.
Note: *Significant at the ten percent confidence level (less than α = 0.10), ** Significant at five percent confidence level (less than α = 0.05),
        *** Significant at one percent confidence level (less than α = 0.01)

TABLE 4. Regression result (B)

Model/Variable	Model 5 (Difference GMM)		Model 6 (Pooled Panel Least Square)		Model 7 (Random Effect)	
	Coefficient	t-statistics	Coefficient	t-statistics	Coefficient	t-statistics
Lag (1) ln FDI	0.453024***	6.993829				
ln GDP	0.40867***	5.98281	0.593041***	0.0001	0.815677***	4.264832
ln ER	0.017409	0.913896	0.039987	0.2501	0.051029	0.863687
INF	-0.002449	-0.856269	-0.0077**	0.038	0.000558	0.123209
TAX	-0.032888***	-2.852454	-0.07177**	0	-0.091721***	-6.194814
Political Stab.	0.008185**	2.312406	-0.000948	0.8915	0.003144	0.38585
RQ			0.015748**	0.0386	0.021757**	2.577905
Corruption	-0.006958**	-2.426889	-0.003858	0.2926	-0.006258*	-1.715908
Middle -Income			0.438557	0.4297	-0.124452	-0.160147
High-Income			0.402615	0.5429	-0.484564	-0.490364
Constant	2.23042	1.493873	7.393804**	2.231986	2.233691	0.516813
F-statistics			36.04921***		16.25586***	
J-statistics	151***					
Adjusted R2	0.767459		0.649804		0.476087	
Durbin Watson	2.181239		0.898020		0.991573	
Adjusted Obs.	159		171		171	

Source: Authors' calculations.
Note: *Significant at the ten percent confidence level (less than α = 0.10), ** Significant at five percent confidence level (less than α = 0.05),
        *** Significant at one percent confidence level (less than α = 0.01)

investments, was found to be consistent in all models. These results appear to be robust to model specifications and are consistent with those of past studies including Gastanaga et al. (1998), Sarwedi (2002), Bengoa and Sanchez-Robles (2003)foreign direct investment (FDI, Frenkel et al. (2004), Grosse and Trevino (2005), Kimino et al. (2007), Jaafar and Hossain (2007), Ang (2008), Kok and Ersoy (2011), Meon and Sekkat (2012), Kolstad and Wiig (2012), Boateng et al. (2015), Asamoah et al. (2016), Chenaf-Nicet and Rougier (2016), Muslim (2016), Al-jaifi et al. (2016), Kayalvizhi and Thenmozhi (2018), Aziz (2018), Nejad et al. (2018), Xu (2018). Investors conduct business in countries with better economic outlooks since every foreign investor conducts economic evaluation to gauge the investment worthiness in a potential host country. It would be more attractive to invest in a country with the expectation of economic growth as opposed to one with the expectation of economic crisis. In the latter case, the investments will be exposed to more uncertainties. The economic outlook of the OIC countries, overall, is expected to remain strong despite the turmoil in some Arab countries such as Yemen, Palestine, Lebanon, Iraq, Afghanistan, and Syria.

The exchange rate does not play a significant role in sourcing FDI. The result in this study appears consistent in all models but not in Model 1, but it also contradicts the findings of Grosse and Trevino (2005), Ang (2008), and Sirin (2017) that established the significant role of exchange rate in deriving FDI. The fluctuation in the exchange rate signifies dynamic economic activities in a country. Local currency appreciation can occur if the demand for it increases such as one triggered by high export activity. Conversely, currency devaluation occurs when demand for the local currency falls. A possible explanation for this result is that appreciation or depreciation of the local currency will be reacted to differently. Such response may be due to the difference in risk tolerance, speculation or business orientation.

Inflation does not play a significant role in sourcing FDI. This nexus appears to be consistent in all models but not in Model 6. The finding contradicts those of Bénassy-Quéré et al. (2001), Bengoa and Sanchez-Robles (2003)foreign direct investment (FDI, Kok and Ersoy (2011), Boateng et al. (2015), and Kayalvizhi and Thenmozhi (2018) which commonly maintained that entrepreneurs prefer to invest in countries with a low level of inflation. The result also refutes Frenkel et al. (2004) and Hayakawa et al. (2013) who found positive correlation between inflation and FDI flows where price level indicates an increase in aggregate demand on goods and services. Such reaction signals enhanced economic activities in the market.

The introduction of dummy variables in Model 6 and 7 shows the non-significant influence of the country's income level on FDI inflows. In addition, the constant value of Model 6 is significant but not in Model 7. Thus, we have no evidence to support the preference of foreign investors to invest in countries with certain economic levels.

CONCLUSION

Foreign investments help develop local industries in the host country by providing funds and technology. Countries under the OIC membership are expected to build stronger cooperation to enhance economic growth and achieve the welfare of the Muslim community. The many potentials of natural resources possessed by Muslim countries must be managed through collaboration between fellow OIC countries.

This study analyzes the nexus of selected macroeconomic variables and the quality of institutions on foreign investment inflow in a sample of selected OIC countries. Proxies of Institutional quality contribute to different degrees of impact on the FDI. The findings show several robust relationships of proxies of macroeconomic and institutional quality on the FDI flows. First, GDP has the highest coefficient in all models and is verified robust. GDP in size, is a highly influential factor in determining FDI. A larger market size will encourage more economic activities, thus promoting FDI flows to the host countries. Second, tax negatively affects the flows of FDI while regulatory quality effect it positively. Third, corruption is proven to foster the flow of inward FDI. The result confirms that foreign firms prefer to invest in the more corrupted countries, which permit them greater access to natural resources and lower taxes.

The findings highlighted the remarkable impact of institutional quality or country governance in attracting foreign investments. The result suggests that managers of MNC carefully assess macroeconomic conditions and institutions' quality before making an investment decision. The instability of the political environment, the complicated bureaucracy, rampant corruption, collusion, and nepotism are the causes of poor quality of institutions in the OIC countries. As corruption attracts more foreign investments, this should be a worrying concern of the respective government. It is quite obvious that the results of this study should not be erroneously construed as support for corrupt governance. Digital adoption by government bureaucracy, and its resultant improved capacity, should be fully supported to fight corruption.

This study is limited to focus only on selected macroeconomic factors and institutional quality in examining FDI inflows. Further studies need to identify the effect of other factors on the flow of foreign investment, such as technology readiness and innovation, public debt, interest rate and culture. Such study need also to increase the sampling through a more extended observation period.

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