INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN INDONESIA

Fradya Randa* & Hasdi Aimon
*Master of Economics, Faculty of Economics, Universitas Negeri Padang, Indonesia
Master of Economics, Faculty of Economics, Universitas Negeri Padang, Indonesia

Abstract

The aim of this study is to examine the short-term and long-term relationship as well as explain the determinants of the flow of foreign direct investment (FDI) in Indonesia. The analysis models used were cointegration by Johansen-Juselius and error correction model (ECM). A time series data from the period of 1982 to 2016 was used. The findings of this research state that the decision of foreign investors to invest in the long term is positively influenced by currency exchange rate and money supply, and negatively by inflation and trade openness. In addition, the findings show a positive relationship between market size, exchange rate and money supply to FDI inflows in the short term.

Keywords: ECM; Determinant; FDI; Indonesia

Introduction

Indonesia needs a large investment in economic development. With insufficient private sector investment, foreign direct investment needs to play a larger role for Indonesia to achieve a higher rate of sustainable economic growth [1].

Empirical studies prove that foreign direct investment (FDI) is one of the positive strengths of economic development of a nation [2]. FDI also has an important role in improving the welfare of recipient countries: bringing new innovations, new technology, new managerial techniques, skills development, capital enhancement, creation of new job opportunities and development of the industrial sector in recipient countries [3], [4]. Apart from its direct benefit, an increase in the amount of capital in the host country, FDI also creates a spillover effect that is beneficial for host countries in developing countries [5]–[7].

Abundant natural resources, abundant labor availability, as well as the growth of the domestic market are potential sources for Indonesia, as one of the favorite destinations for foreign investment in the Southeast Asian region. Wide opportunities are available for multinational firms to internalize their production location in Indonesia. [8]. According to the report of United Nations Conference on Trade and Development [9] of 2016, Indonesia ranked 8th place as the country that is economically prospective for multinational firms (MNEs) to invest in for 2017 until 2019. Stable macroeconomic conditions will support the optimization of investment potential in Indonesia.

The role of foreign direct investment (FDI) in the Indonesian economy has been present since the opening of Indonesia to foreign capital in the late 1960s. The trend of FDI inflows from 1982 to 2016 in Indonesia is illustrated in Figure 1; FDI inflows tended to increase before the occurrence of 1997-1998 crisis. When the monetary crisis occurred, which affected to a decline in the Indonesian economy including FDI flows, a large-scale foreign capital flight occurred resulting in a decline of FDI flows to $13563,1 million USD in that year and the condition continued into post-crisis. Economic policies and regulations were continuously revolved to restore the economy post-crisis. However, the improvements that materialized had no significant effect on FDI flows in Indonesia. Despite the relatively stable political situation and improved macroeconomic performance in 2002, the growth rate of FDI continued to grew negatively in Indonesia [10].

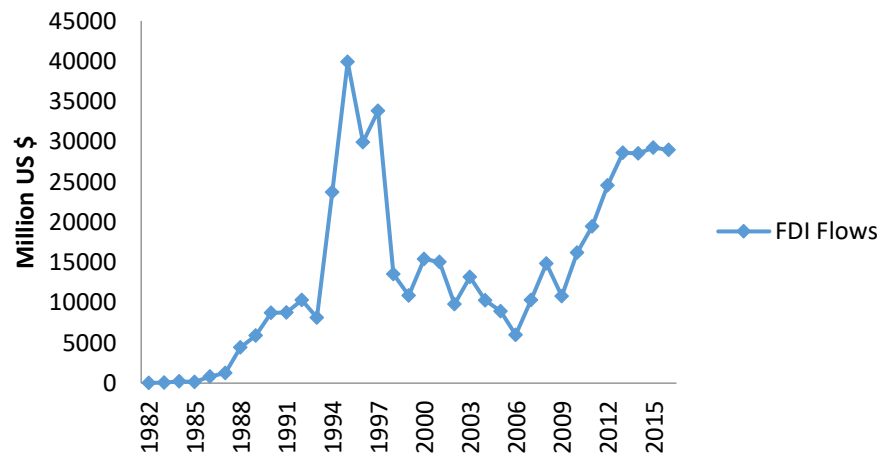INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

Figure 1: FDI flows in Indonesia in 1982 - 2016 from annual Statistics of Indonesia (BPS)

Foreign direct investment (FDI) began to increase again in 2007 due to a number of incentives and government regulations to attract investment to Indonesia. In 2009, FDI experienced a decline due to global economic crisis. Nonetheless, it did not give too much impact on FDI inflows due to less short-term impact of international capital market fluctuations and improvement in the supervision of the domestic financial sector [11]. The trend of rising FDI flows began again in 2010.

This study seeks to uncover the macroeconomic factors determining the flow of FDI in Indonesia, using the cointegration model and error correction model (ECM), to see the long- and short-term relationship of the influencing variables. Furthermore, the second part explains the research literature for each variables, the third part examines the data and methodology, the fourth part discusses the analysis of the research findings, and the fifth part gives the conclusion and policy recommendations.

Research Literature And Hypothesis Development

The eclectic paradigm developed by Dunning [12] provides a conceptual illustration to explain FDI. Multinational firms re-evaluate their strategies for investing abroad, to keep pace with the rapid economic development of developed countries by grouping into four classifications, namely market-seeking, efficiency-seeking, resource-seeking and strategic asset-seeking. Different countries certainly employ different strategies in accordance with the orientation of FDI; firms that aim to capitalize on the superiority of their assets are more focused on investing in developing countries while firms that are oriented in seeking strong assets (assets seeking) tend to invest in developed countries[13].

This study focuses on several macroeconomic variables that determine FDI, namely market size, inflation, exchange rates, money supply (M2), and trade openness. Many empirical studies in various countries have examined these variables as determinants of FDI [5], [14]–[17]. Foreign investors tend to be more interested in countries with higher GDP growth rates because they show potential demand for their products in Malaysia [18]. A stable flexible exchange rate may be required to successfully attract FDI flows in India. [19]. Analitically, FDI inflow in India was influenced by trade openness [20]. Inflation became one of the macroeconomic variables that determined FDI entry in Nigeria from 1970 to 2009 [21] and money supply affected FDI in Jordan [6]. These variables will be tested to determine factors that affect FDI in Indonesia.

Size Market
Empirical studies use market size as a determinant of FDI inflows with real gross domestic product as a proxy for market size [22], [23]. FDI inflows are characterized by market-seeking motives [24]. The larger the size of the market in a host country characterized by GDP, the higher the FDI inflow [25]. Thus, the hypothesis can be built as follows.
H1: GDP increase will increase FDI flows or larger market size will be more preferred by foreign investors.

Inflation

Inflation is referred as a traditional variable that sometimes indicates economic tension and the inability of the central bank and the government to limit the money supply and balance the budget [26]. High inflation is a sign of economic instability, which can have a negative effect on firms operations [27]. Inflation control is necessary because it influences FDI [28]. These opinions are also supported by the research of [29] which states a negative relationship between inflation and FDI.

H2: low inflation will increase FDI flows.

Money Supply (M2)

The growth rate of money supply causes uncertainty in exchange rates that influences FDI flows [30]; an increase in the money supply will increase the position of the national economy which will then attract FDI inflows [31]. FDI has a casual relationship in line with the money supply [6]. Hence, the researcher presents the following hypothesis.

H3: increase in money supply will increase the FDI inflows in Indonesia.

Exchange Rate

Real exchange rates affect the choice of countries for the location of production facilities by multinational firms [32]. Depreciation of the currency of the host country will increase FDI inflows because the relative wealth of foreign investors will increase and the input cost of using the currency of their native countries will enable them to finance more investments internally [33]. A decrease in currency values will increase FDI inflows [5], [34], [35]. Prediction of the relationship between exchange rates and FDI varies among all theoretical models and some models predict ambiguous results [36]. According to [37], firms will not invest in countries with weaker currencies. The same opinion is also expressed by [36]

H4: Depreciation of currency values will increase FDI inflows.

Trade Openness

Trade openness shows the level of restriction on trading activities made by the host country. A more open economy will increase FDI inflows because it reflects the willingness of a country to receive foreign investment [38]. This opinion is supported by research results [39]–[41]. Meanwhile, [42] found a negative relationship between trade openness and FDI flow. The effect of trade openness to FDI is determined by investment orientation.

H5: trade openness is negatively related to FDI.

Research Methodology

This study aims to identify the key factors determining FDI flows in the Indonesian economy. Using time series data from 1982 to 2016, the relationship model between FDI and the influencing factors is as follows:

FDI= f (MZ, INF, ER, M2, OP)   (1)

Where FDI is foreign direct investment, data is taken from annual statistics of Indonesia. Market Size (MZ) is real gross domestic product. Inflation (INF) uses index data of consumer price. M2 is money supply. Exports and imports as percentage of GDP is called trade openness (OP). Variables of time series data (MZ, INF, M2, OP) are taken from world development indicator, World Bank. Meanwhile, exchange rate (ER) is the average exchange rate of rupiah against US dollars, from international financial statistic, IMF. Variables data (FDI, MZ, INF, ER, M2) are in the form of logarithms while the variable data of trade openness (OP) is in the form of percentage so it is notformed into logarithms.

$$\ln FDI_t = \beta_0 + \beta_1 \ln MZ_t + \beta_2 \ln INF_t + \beta_3 \ln ER_t + \beta_4 \ln M2_t + \beta_5 OP_t + \varepsilon_t \qquad (2)$$

Where ε is random error. The expected sign of the research is $\beta_1 > 0$, which means market size has a positive impact on FDI, $\beta_2 < 0$ means inflation has a negative impact on FDI, $\beta_3 > 0$; $\beta_3 < 0$ means the effect of exchange rate on FDI can be negative or positive, $\beta_4 > 0$ means money supply has a positive impact on FDI, and $\beta_5 < 0$ means trade openness has a negative impact on FDI.

INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

Equation 3 incorporates EC_{t-1} to integrate short-term dynamics in long-term FDI functions, so that an error correction model (ECM) is used as follows:

$$\Delta \ln FDI_t = \beta_0 + \beta_1 \Delta \ln MZ_t + \beta_2 \Delta \ln INF_t + \beta_3 \Delta \ln ER_t + \beta_4 \Delta \ln M2_t + \beta_5 \Delta OP_t + EC_{t-1+Vt} \qquad (3)$$

where EC_{t-1} = error-correction term lagged one period.

Methodology Estimation

This research used multivariate cointegration analysis by Johansen and error correction model (ECM) to determine the important factors determining FDI in Indonesia. These models were used to determine the short- and long-term relationships of each determinant factors of FDI.

The estimation step of this research model involved three steps:

(i) Unit root test to avoid false regression results. One unit root test that is often used is augmented dickey-fuller and Phillips-Perron

(ii) if the variables are integrated in the same order, cointegration test will be performed using multivariate cointegration analysis by Johansen [43], [44]

(iii) if the variables are cointegrated, we can determine the error correction model and the estimated standard method.

Estimation Results

Unit root test

Unit root tests of research variables are very important to be carried out before conducting cointegration tests. Most macroeconomic variables tend to show deterministic and stochastic over time, which can be a problem especially when they are divided among variables that do not have economic relations. There is possibility of false regression showing t-statistic and f-statistic that leads to wrong conclusion. Therefore, in time series analysis, the data must be stationary or in the case of non-stationarity, the right methodology must be applied to resolve it [45]. This research used augmented dickey-fuller (ADF) and Phillips-Perron(PP) tests for unit root tests.

Unit root test results in table 1 used augmented dickey-fuller; only FDI, M2, and trade are stationary at the level. This finding is also supported by the Phillip-Perron test in Table 2, while other variables are non-stationary. After continuing tests at the first difference, the results show all the variables are stationary from both tests, namely augmented dickey-fuller and Phillips-Perron.

Table 1. Unit root test Augmented dickey fuller

	Level		First difference	
Variable	T-statistic	Prob	t-statistic	Prob
ln FDI	-4.721052	0.0006	-5.624494	0.0000
ln GDP	-0.339996	0.9084	-4.271252	0.0020
ln CPI	-0.901897	0.7754	-4.621242	0.0008
ln ER	-1.654218	0.4447	-6.121171	0.0000
ln M2	-3.930858	0.0048	-3.651477	0.0099
TRADE	-3.229983	0.0268	-8.869151	0.0000

Notes: ADF test was performed using Eviews 8.0.

Table 2. Unit root test Phillips Perron

	Level		First difference	
Variable	Adj. t-stat	Prob	t-statistic	Prob
ln FDI	-6.721194	0.0000	-5.628949	0.0000
ln GDP	-0.339996	0.9084	-4.257094	0.0021
ln CPI	-0.867133	0.7864	-4.635195	0.0008
ln ER	-1.668160	0.4379	-6.125062	0.0000
ln M2	-3.649196	0.0098	-3.721601	0.0083
TRADE	-3.291656	0.0232	-8.869151	0.0000

Notes: PP test was performed using Eviews 8.0

INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

Cointegration Test

Before conducting cointegration test, the relevant lag length is first determined from the VAR model. Information from Akaike information criterion (AIC) and Schwarz information criterion (SC) is that the optimal lag length is 1. Afterwards, cointegration test by Johansen-Juselius was applied to determine the balance in the long term, whether there are similarities in movement and stability of relationship between the variables in the research.

Table 3 shows the trace statistical value of 118,1420 is above the critical value of 95,75366 at r = 0, meaning the no cointegration hypothesis is rejected, and the alternative hypothesis is accepted. Then,null hypothesis at r ≤ 1 and r ≤ 2 the value of trace statistics is also above the critical value, meaning the null hypothesis is rejected and the cointegration hypothesis is accepted. Meanwhile, null hypothesis at r ≤ 3 cannot be rejected at a significant level of 0.5 percent. As a result, we conclude there is a cointegration relationship on the variables studied.

Table 3: Multivariate Cointegration test by Johansen-Juselius

Null Hyphotesis	Eigenvalue	Trace Statistic	0.05 Critical Value	Max-Eigen Statistic	0.05 Critical Value
None *	0.707419	118.1420	95.75366	39.32842	40.07757
At most 1 *	0.608196	78.81362	69.81889	29.98380	33.87687
At most 2 *	0.495140	48.82983	47.85613	21.87117	27.58434
At most 3	0.344968	26.95866	29.79707	13.53830	21.13162
At most 4	0.209589	13.42036	15.49471	7.526467	14.26460
At most 5 *	0.168218	5.893898	3.841466	5.893898	3.841466

Notes: * denotes rejection of the hypothesis at the 0.05 level. These nonstandard critical values are taken from MacKinnon-Haug-Michelis (1999)

Meanwhile, the Max-Eigen statistic states that the null hypothesis of no cointegration at r = 0 is rejected at a significant level of 0,5 percent, and supports the alternative hypothesis. And the null hypotheses at r ≤ 1 and r ≤ 2 the Max-Eigen statistic value is larger than the critical value, so the null hypothesis is rejected and the alternative hypothesis is accepted. Meanwhile, the null hypothesis at r ≤ 3 is accepted that there is no cointegration and the alternative hypothesis is rejected. It can be confirmed that there is a cointegration relationship on the variables of this research.

Table 4. Estimation of long-term relationship

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-90.82040***	51.26759	-1.771497	0.0870
LOGGDP	-0.320650	1.923761	-0.166678	0.8688
LOGCPI	-7.494618*	0.667621	-11.22585	0.0000
LOGER	2.086220*	0.719542	2.899373	0.0071
LOGM2	4.296533*	0.731748	5.871600	0.0000
TRADE	-0.038815*	0.013964	-2.779641	0.0095
R-squared	0.970833	F-statistic	193.0569	
Adjusted R-squared	0.965805	Prob(F-statistic)	0.000000	

Note:*,**,*** represent significant statistics at levels 1%, 5 %, and 10 %

Cointegration relationship states that there is a long-term balance between exogenous and endogenous variables in this research. The regression estimation results in Table 4 show the relationship between macroeconomic variables studied and FDI in Indonesia.

Inflation was found to have a strong negative influence on FDI flows. A 1 percent increase in inflation in the long term will reduce FDI inflows by 7,49 percent to Indonesia. Trade openness was also found to be

INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

significantly negative in relations to FDI flows to Indonesia because of the deficit position of trade balance (import greater than export) which caused the economic openness ratio to negatively influence foreign direct investment (FDI) in Indonesia. The findings [42] also state the negative relationship between openness and FDI flows.

Meanwhile, the exchange rate and money supply in the long term were found to have a significant positive effecton FDI flows to Indonesia. However, the market size in the long term does not have a significant effect on FDI flows to Indonesia.

Estimation of Error-Correction Model
After conducting cointegration test, the estimation of the appropriate ECM model can be applied to determine the short-term relationship of the determinant variables of FDI. Stability parameters in the long term can be examined with error correction model (ECM).

Table 5. Estimation of error- correction model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.980461	0.354410	-2.766456	0.0101
D(LOGGDP)	13.56234*	4.264413	3.180352	0.0037
D(LOGCPI)	-1.156835	1.963085	-0.589295	0.5606
D(LOGER)	1.571769**	0.723291	2.173080	0.0387
D(LOGM2)	3.310071*	1.073373	3.083804	0.0047
D(TRADE)	-0.011537	0.010997	-1.049132	0.3034
EC(-1)	-0.885677*	0.161935	-5.469344	0.0000
R-squared	0.681495	F-statistic	9.628496	
Adjusted R-squared	0.610716	Prob(F-statistic)	0.000011	

Notes: *,**,*** represent significant statistics at levels1 %, 5 %, and 10 %

The short-term estimation results in Table 5 show that market size has a statistically significant effect on FDI flows; a one percent increase in the growth of GDP will boost an increase of 13,56 percent in FDI inflows in Indonesia. The exchange rate was also found to be statistically significant; a one percent exchange rate depreciation will lead to an increase of 1,57 percent in FDI inflows. The coefficient of money supply of 3,31 percent means a one percent increase in money supply will boostan increase of 3,31 percent in FDI inflows to Indonesia.

Meanwhile, inflation in the short term was revealed to have a negative relationship with FDI flows, but nosignificant effect on FDI flows to Indonesia. Trade openness was also found to have no significant effect on FDI flows in the short term.

The value of the determinant coefficient R2 is quite high, 68 percent of the total variation of FDI flow in Indonesia, which can be explained by the macroeconomic variables studied. Although error correction term describes the proportion of FDI imbalances in the long term, it can be corrected annually at a significant level of 1 percent. Approximately 88 percent of the imbalance in FDI flows is being corrected every year in Indonesia.

Conclusion
The empirical test results of determinants of foreign direct investment (FDI) in Indonesia using cointegration and error correction model approaches show that market size is a key factor in determining the FDI flow to Indonesia in the short term. The increase in GDP shows an increase in market size which becomes an attraction for foreign investors to invest their capital in the host country. However, in the long term there was no significant relationship found between market size and FDI.

Exchange rates were found to have a positive effect on FDI flows. Depreciation of the rupiah exchange rate will increase FDI inflows to Indonesia. The decline in rupiah value indicates increase in wealth of foreign investors wishing to invest in Indonesia; consequently they can buy assets in larger amounts.

INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

Increase in money supply (M2) will encourage an increase in FDI inflows in the short term as well as long term to Indonesia. when money supply rises, economic activities of a country increases as well and attracts foreign investors.

Meanwhile, inflation was found to have a negative influence on FDI flows, though insignificant in the short term, possibly because inflation has no adverse effects on the economy in a short time. However, in the long term inflation will disrupt macroeconomic stability, becoming a potential risk for foreign investors. Evidently, the findings of this research suggest a significantly negative relationship between inflation and FDI flows to Indonesia in the long term.

One interesting finding in this research is that in the long term trade openness has a significant negative effect on FDI flows to Indonesia. The proportion of imports that are greater than exports on the trade balance caused openness ratio to negatively affect FDI to Indonesia. However, in the short term, trade openness was found to have no effect on FDI flows to Indonesia.

Policy Implications

The right policies in controlling macroeconomic factors will increase FDI flows to Indonesia. Growth in market size (GDP) is one of the factors that can attract FDI to Indonesia. Therefore, encouraging an increase in GDP growth is important in promoting FDI flows into Indonesia.

Maintaining financial system stability especially in inflation and exchange rates is also important. Since inflation is one of the indicators of macroeconomic stability that is considered by investors, it will have an impact on the risk and certainty of return on investment rate for incoming investments.

References

[1]   World Bank, "Indonesia Economic Quarterly," 2017.
[2]   Z. Szkorupová, "A Causal Relationship between Foreign Direct Investment, Economic Growth and Export for Slovakia," Procedia Econ. Financ., vol. 15, no. 14, pp. 123–128, 2014.
[3]   J. Markusen and A. Venables, "Foreign Direct Investment as a Catalyst for Industrial Development," Eur. Econ. Rev., vol. 43, no. 2, pp. 335–356, 1997.
[4]   K. Wadhwa and S. Reddy S, "Foreign Direct Investment into Developing Asian Countries: The Role of Market Seeking, Resource Seeking and Efficiency Seeking Factors," Int. J. Bus. Manag., vol. 6, no. 11, pp. 219–226, 2011.
[5]   J. B. Ang, "Determinants of foreign direct investment in Malaysia," J. Policy Model., vol. 30, no. 1, pp. 185–189, 2008.
[6]   H. A. Bekhet and R. W. Al-Smadi, "Determining the causality relationships among FDI determinants: evidence from Jordan," Int. J. Sustain. Econ., vol. 6, no. 3, pp. 261–274, 2014.
[7]   H. A. Bekhet and A. Matar, "Co-integration and causality analysis between stock market prices and their determinates in Jordan," Econ. Model., vol. 35, pp. 508–514, 2013.
[8]   J. T. Lindblad, "Foreign Direct Investment in Indonesia: Fifty Years of Discourse," Bull. Indones. Econ. Stud., vol. 51, no. 2, pp. 217–237, 2015.
[9]   UNCTAD, World Investment Report 2017 - Investment and the Digital Economy. 2017.
[10]   A. MacIntyre and B. P. Resosudarmo, "Survey of recent developments," Bull. Indones. Econ. Stud., vol. 39, no. 2, pp. 133–156, 2003.
[11]   H. Hill, "SOUTHEAST ASIAN MACROECONOMIC MANAGEMENT : PRAGMATIC ORTHODOXY ?," vol. 39, no. 2, pp. 459–479, 2013.
[12]   J. H. Dunning, "The eclectic paradigm of international production: A restatement and some possible extensions," Eclect. Paradig. A Framew. Synth. Comp. Theor. Int. Bus. from Differ. Discip. or Perspect., no. June, pp. 50–84, 1988.
[13]   shige makino, C. Lau, and R. Yeh, "Asset-Exploitation Asset-Seeking : Implications for location choice of foreign direct investment from newly industrialized economies," J. Int. Bus. Stud., vol. 3, pp. 403–421, 2002.

INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

[14]   M. D. Ramirez, "Foreign direct investment in Mexico: A cointegration analysis," J. Dev. Stud., vol. 37, no. 1, pp. 138–162, 2000.
[15]   K. H. Zhang, "Foreign direct investment in China," Can. Foreign Policy J., vol. 13, no. 2, pp. 35–50, 2006.
[16]   H. M. Kim and S. S. Han, "Inward foreign direct investment in Korea: Location patterns and local impacts," Habitat Int., vol. 44, pp. 146–157, 2014.
[17]   C. F. Tang, C. Y. Yip, and I. Ozturk, "The determinants of foreign direct investment in Malaysia: A case for electrical and electronic industry," Econ. Model., vol. 43, pp. 287–292, 2014.
[18]   C.-K. Choong and S.-Y. Lam, "The Determinants of Foreign Direct Investment in Malaysia: A Revisit," Glob. Econ. Rev., vol. 39, no. 2, pp. 175–195, 2010.
[19]   D. Kumarasamy and N. Velan, "Do Exchange Rate and its Volatility Deter Foreign Direct Investment to India?," Available SSRN 2265267, vol. 60, no. June, 2011.
[20]   N. Sury, "Determinants of foreign direct investment in India," pp. 24–41, 2006.
[21]   U. Ahmed E. and A. M. Gabriel, "The Determinants and Impacts of Foreign Direct Investment in Nigeria," Int. J. Bus. Manag., vol. 7, no. 24, 2012.
[22]   I. A. Moosa and B. A. Cardak, "The determinants of foreign direct investment: An extreme bounds analysis," J. Multinatl. Financ. Manag., vol. 16, no. 2, pp. 199–211, 2006.
[23]   H. Saleem, W. Jiandong, M. B. Khan, and B. A. Khilji, "Reexamining the determinants of foreign direct investment in China," Transnatl. Corp. Rev., vol. 10, no. 1, pp. 53–68, 2018.
[24]   O. A. Ibrahim and S. E. M. Abdel-Gadir, "Motives and Determinants of FDI: A VECM Analysis for Oman," Glob. Bus. Rev., vol. 16, no. 6, pp. 936–946, 2015.
[25]   M. Uddin and A. Boateng, "Explaining the trends in the UK cross-border mergers & acquisitions: An analysis of macro-economic factors," Int. Bus. Rev., vol. 20, no. 5, pp. 547–556, 2011.
[26]   B. G. Buchanan, Q. V. Le, and M. Rishi, "Foreign direct investment and institutional quality: Some empirical evidence," Int. Rev. Financ. Anal., vol. 21, no. 24, pp. 81–89, 2012.
[27]   I. J. C. Gondim, N. Morandier, I. R. R. Dias, C. A. P. Couto, and T. C. A. Charotta, "Analysis of Domestic Factors Affecting Outward Foreign Direct Investment in Brazil," Lat. Am. Bus. Rev., vol. 18, no. 1, pp. 1–18, 2017.
[28]   R. Kumari and A. K. Sharma, "Determinants of foreign direct investment in developing countries: a panel data study," Int. J. Emerg. Mark., vol. 12, no. 4, pp. 658–682, 2017.
[29]   X. A. Rodríguez and J. Pallas, "Determinants of foreign direct investment in Spain," Appl. Econ., vol. 40, no. 19, pp. 2443–2450, 2008.
[30]   K. N. Russ, "The endogeneity of the exchange rate as a determinant of FDI: A model of entry and multinational firms," J. Int. Econ., vol. 71, no. 2, pp. 344–372, 2007.
[31]   M. Resende, "Mergers and acquisitions waves in the UK: A Markov-switching approach," Appl. Financ. Econ., vol. 18, no. 13, pp. 1067–1074, 2008.
[32]   L. S. Goldberg and C. D. Kolstad, "Foreign Direct Investment, Exchange Rate Variability and Demand Uncertainty," Int. Econ. Rev. (Philadelphia)., vol. 36, no. 4, pp. 855– 873, 1994.
[33]   S. Takagi and Z. Shi, "Exchange rate movements and foreign direct investment (FDI): Japanese investment in Asia, 1987-2008," Japan World Econ., vol. 23, no. 4, pp. 265–272, 2011.
[34]   A. Imran Hunjra, S. Ali Raza, and M. Usman Asif, "Impact of Macroeconomic Variables on Foreign Direct Investment in Pakistan," Bull. Bus. Econ., vol. 2, no. 2, pp. 40–52, 2013.
[35]   L. Cuyvers, R. Soeng, J. Plasmans, and D. Van Den Bulcke, "Determinants of foreign direct investment in Cambodia," J. Asian Econ., vol. 22, no. 3, pp. 222–234, 2011.
[36]   S. Phillips and F. Ahmadi-Esfahani, "Exchange rates and foreign direct investment: theoretical models and empirical evidence," Aust. J. …, pp. 505–525, 2008.
[37]   M. R. Mohammadvandnahidi, N. Jaberikhosroshahi, and D. Norouzi, "The determinants of foreign direct investment in Iran-bounds testing approach," Ekon. Istraz., vol. 25, no. 3, pp. 560–579, 2012.
[38]   O. G. Aziz and A. V. Mishra, "Determinants of FDI inflows to arab economies," J. Int. Trade Econ. Dev., vol. 25, no. 3, pp. 325–356, 2016.
[39]   N. Carlos, "Foreign Direct Investment : The Canadian Experience," vol. 2, no. 4, pp. 82–88, 2010.
[40]   P. G. Liargovas and K. S. Skandalis, "Foreign Direct Investment and Trade Openness: The Case of Developing Economies," Soc. Indic. Res., vol. 106, no. 2, pp. 323–331, 2012.

INTERNATIONAL JOURNAL OF RESEARCH SCIENCE & MANAGEMENT

[41]   K. Ravinthirakumaran, E. A. Selvanathan, S. Selvanathan, and T. Singh, "Determinants of foreign direct investment in Sri Lanka," South Asia Econ. J., vol. 16, no. 2, pp. 233–256, 2015.

[42]   J. Yu and J. P. Walsh, "Determinants of Foreign Direct Investment: A Sectoral and Institutional Approach," IMF Work. Pap., vol. 10, no. 187, pp. 1–27, 2010.

[43]   S. Johansen, "Statistical analysis of cointegration vectors," J. Econ. Dyn. Control, vol. 12, no. 2–3, pp. 231–254, 1988.

[44]   S. Johansen and K. Juselius, "Maximum Likelihood Estimation and Inference on Cointegration — With Applications To the Demand for Money," Oxf. Bull. Econ. Stat., vol. 52, no. 2, pp. 169–210, 1990.

[45]   R. F. Engle and C. W. J. Granger, "Co-Integration and Error Correction: Representation, Estimation, and Testing," Econometrica, vol. 55, no. 2, p. 251, 1987.