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THE MACROECONOMIC DETERMINANTS AND FDI: EVIDENCE FROM 14 INTERNATIONAL ALLIANCES

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ABSTRACT

This study investigates the relationship between Foreign Direct Investment (FDI) and some macroeconomic variables such as Gross Domestic Product (GDP), Gross Capital Formation (GCF), Agriculture, Forestry, and Fishing (AFF), Industry, Import, Export, Inflation and Unemployment rate. Panel Data of 14 regional alliances countries from 1990-2018 were collected from The World Bank website. Robust regression models are used in this study. This research found that GDP had significant positive relationship with FDI in all regions except Arab League, EU and G7 countries. GCF had significant positive relationship with FDI in Arab League, BRI, GATT, NAFTA countries & negative relationship in APEC, G7 countries. AFF had significant positive relationship with FDI in BRICS, GATT countries & negative relationship in African Union, ASEAN, BIMSTEC, BRI, BRICS, SAFTA countries. Industry had significant positive relationship with FDI in African Union, BRI, NAFTA, OECD countries and negative relationship in BRICS, G7, G20 countries. Import had significant positive relationship with FDI in African Union, APEC, Arab League, ASIAN, BRI, G7, G20, GATT countries and negative relationship in BRICS countries. Export had significant positive relationship with FDI in BRICS countries and negative relationship in African Union, ASEAN, BRI, G20, GATT, OECD, SAFTA countries. Inflation had significant positive relationship with FDI in GATT, SAFTA countries and negative relationship in African Union, APEC countries. Unemployment rate had significant positive relationship with FDI in African Union, BRI, BRICS, EU, G20, GATT, OECD, SAFTA countries and negative relationship in ASEAN countries.

Contribution/ Originality: This study adds to the current literature by looking at the link between FDI and important macroeconomic factors in 14 global regional alliances. Using robust models such as POLS, DC, 2SLS, and GMM, the study examined and determined the type and degree of influence of important macroeconomic factors on FDI flows.

1. INTRODUCTION

The aim of this paper is to examine the relationship between foreign direct investment (FDI) and some macroeconomic variables such as gross domestic product, gross capital formation, value addition in agriculture, forestry, and fishing, value addition in industry like constructions, import and export of goods and services, consumer price indices, and unemployment rates in 14 regional alliances. It's thought that there's a correlation

between these variables and foreign direct investments. We're looking for a connection between all of these metrics and foreign direct investment because they all have an effect on a country's gross domestic product, both directly and indirectly. De Mello observes that FDI has a strong impact on economic development in both developed and developing countries, but concludes that technology and infrastructure are the driving forces behind long-term growth in host countries. Information spillovers from countries that spend in developing countries (De Mello, 1999). Blomstrom claims that for FDI to have a significant effect on economic growth, the nation must have reached a level of production that allows it to reap the benefits of high productivity (Blomstrom, Lipsey, & Zejan, 1994). According to Makki and Somwaru, foreign direct investment (FDI) and trade are both significant catalysts for developed countries' economic development (Makki & Somwaru, 2004). They advocated FDI as an important method for transferring technologies from developed to developing countries. FDI also encourages local participation and helps the host country's human resources and organizations develop.

According to the data, Malaysia's external FDI data was particularly noticeable in the 1990s (Kueh, 2009). Their research looked at real wages, exchange rates, free trade, and interest rates as macroeconomic factors that affect Malaysia's outbound FDI. They used the cointegration test developed by Johansen and Juselius, as well as a vector error correction technique. They examined quarterly data from 1991: Q1 to 2005: Q4 and discovered that in the long term, all of the variables studied had a positive effect on Malaysia's external FDI. They also discovered that in the short term, Granger's interest rate does not trigger external FDI.

Babajide and Lawal (2016) examined the relationship between FDI and some of the chosen macroeconomic variables in Nigeria's long-term and short-term equilibrium, based on the FDI Macroeconomic Theory. Their research used ARDL measurement techniques to see whether the chosen macroeconomic variables have a substantial impact on FDI, which macroeconomic variable(s) should be used to boost FDI inflows to the country's economy, and what policy consequences should be implemented. Their findings show that policies aimed at rising trade, government spending, regulating the exchange rate mechanism, decreasing inflation, and lowering interest rates are successful in attracting FDI inflows.

Iwasaki and Tokunaga (2014) published a literature review on the effect of foreign direct investment on economic development in Central and Eastern Europe and the former Soviet Union. The impact size and statistical importance of the observed effects are highly dependent on the test circumstances, according to the findings of their meta-regression analysis. They discovered that recent research suggests that foreign direct investment has a positive impact on regional growth. They also mentioned that the findings in question did not have conclusive evidence of the non-zero impact of FDI. Finally, they asserted that further testing is needed to determine the true effects. The paper is divided into five chapters. First chapter is the introduction. The second chapter is aimed at the relevant literature overview. A model used and data are specified in the third chapter. The third chapter also deals with research methodology. The forth chapter is about the finding and analysis of different model. The last chapter includes conclusion along with some recommendation.

2. LITERATURE REVIEW

Many scholars have confirmed the positive effect of FDI on developing economies (Schneider & Frey, 1985), (Neuhaus, 2006). FDI is especially important for transition economies, as these economies have inadequate savings, and technologies and resources are required to support economic development (Babajide & Lawal, 2016; Bhavan, Xu, & Zhong, 2011; Billington, 1999). According to Abramovitz, host countries must have human capital capability, economic and political stability, and market transparency in order to benefit from FDI inflows (1986). Borensztein, De Gregorio, and Lee (1998) concluded that FDI could only increase output efficiency if the host developed countries have the lowest degree of human capital accumulation (Markusen & Maskus, 2002) and stressed long-term determining factors for FDI operations, such as absolute / comparative national endowment, market scale /

dispersion, and so on. According to Bengoa and Sanchez-Robles (2003) recipient economies need human resources, economic growth, and liberalized markets to benefit from long-term FDI inflows.

Many researchers around the world have been interested in the relationship between FDI and a variety of other important influences, such as the political structure and foreign trade, resulting in a vast and growing body of information. There is no evidence that FDI has positive spillovers for host countries, according to Hanson (2001). Democratic nations, according to Mansfield (2000) have lower trade barriers and therefore participate in more free international affairs. Borensztein, De Gregorio, and colleagues (Borensztein et al, 1998) investigated the connection between foreign direct investment and economic growth in developing countries. They've seen that FDI allows for easier technology transition and growth when the host nation has a certain level of human resources. Both cross-section and panel data analysis were used to demonstrate that democracy is increasing FDI inflows in developed countries (Busse, 2003). Méon and Sekkat (2005) explores the interaction between institutions and FDI in MENA countries. According to Milner and Kubota (2005) democratization limits the capacity of political institutions to create consensus for trade barriers, which is why it improves trade transparency. Bénassy-Quéré, Coupet, and Mayer (2005) examines the structural influences that affect FDI, based on the principles of "institutional continuity" and "institutional scope."

Kamaly (2002) discovered that FDI's approach to macroeconomic fundamentals avoids emphasizing macroeconomic policy's long-term consequences. According to the World Bank, government stability, the absence of domestic strife, and fundamental political safeguards are main determinants of foreign direct investment inflows (Busse & Hefeker, 2007). They've seen that 'stable organizations' almost always raise overall FDI. That's about what there is to it. They say that the effect is unaffected by per capita GDP. According to Méon and Sekkat (2005) institutional competitiveness raises FDI inflows, while reverse causality may be to blame for the statistical relationship's deterioration. Gbakou, Jallab, and Sandretto (2008) also found that macro-economic stability is important to reflect the effect of FDI on economic development.

A number of studies have been conducted on the factors that affect global capital flow in developing economies. These studies concentrate on the fiscal, sociopolitical, and structural facets of foreign direct investment. Global factors are variables that affect domestic productivity, labor costs, trade freedom, and economic stability. Almost any empirical study that identifies the determinants of FDI flow has found significant determinants (Hailu, 2010; Krifa-Schneider, 2010; Leitão, 2010; Leitão & Faustino, 2010; Lv, Wen, & Xiong, 2010; Mohamed & Sidiropoulos, 2010). Some outlets have used real gross domestic product per capita or actual gross national product per capita to measure a country's market scale or income within a territory. True GDP is used as a proxy for a business. If companies use a scale that represents greater buying power, they can be able to generate higher returns on their resource acquisitions and make more money on their investments. As a result, they speculated that company size and FDI have a favorable relationship. FDI has a significant cumulative impact on the host country's export output, according to a number of reports. According to studies in China (Sun, 2001), increased FDI has a positive impact on Chinese manufacturing export production (Zhang & Song, 2001). Zhang (2005) However, this success can be due to the fact that FDI in China has mostly concentrated on exports. Related findings have been discovered in Ireland (Barry & Bradley, 1997). The impact of export-oriented FDI on Malaysia's manufacturing exports was examined by a team of researchers (Athukorala & Menon, 1995).

Doytch and Uctum (2011) looked at the impact of production and service FDI (foreign direct investment) on their own economies, spillover results to other sectors, and the host country's overall economy. The key sectoral and inter-industry spillover effects of different data classifications and FDI flow forms were highlighted. Manufacturing FDI has a substantial growth impact in Latin America, the Caribbean, Europe-Central Asia, middle and low-income countries, and economies with a significant market share, according to their results, by increasing demand in its own (manufacturing) sector. An increase in FDI services is expected to boost service sector growth while negatively impacting manufacturing operations. FDI fuels demand in Southeast Asia and the Caribbean, as

well as high-income countries and service-based sectors, by expanding both production and service-based operations. FDI in the non-financial market, on the other hand, wastes money and hurts the automotive industry in the same area. They came to the conclusion that if non-financial FDI pushes the shift from production to service FDI, it would almost inevitably lead to deindustrialization of many areas and economies.

Malaysia is one of Southeast Asia's most common foreign direct investment (FDI) destinations, according to the World Bank (Fadhil & Almsafir, 2015). What effect do these FDI inflows have on Malaysia's economy, though? The aim of their study was to determine the role of FDI inflows in Malaysia's economic growth using the proposed endogenous growth model. Annual data were used for the years 1975 to 2010. They used the Unit root test and the Johansen Co-integration test to ensure that the time series data was consistent and that the linear mixture of the variables was stationary. The findings revealed that FDI inflows, as well as the production of human resources, play a significant role in the economic growth of the host nation. Technical spillover from FDI inflows, on the other hand, is also insufficiently balanced with human resources to lead to economic development. As a result, it seems that the government is concentrating more resources on improving national human capital in order to draw and retain FDI. Furthermore, the economy's opening up as well as the foreign exchange situation must begin to improve.

Hong (2014) suggested GMM to re-evaluate the effect of FDI on economic growth in China and the corresponding FDI factor for the period 1994-2010, based on nuanced panel data from 254 prefecture-level cities in China. International direct investment has a positive impact on economic growth, they found. Furthermore, considering the fact that free trade does not add substantially to FDI, economies of scale, human resources, utilities, labor costs, and regional inequality all impede FDI and economic development in China. In reality, FDI is projected to overtake international resources, leaving domestic capital and vast foreign-exchange reserves to ponder whether they are being used fairly.

Szkorupová (2014) investigate the relationship between foreign direct investment, economic development, and exports in Slovakia. Estimates of the effect on economic development were made for Slovakia from 2001 to 2010. The co-integration approach and the vector error correction model were used to review quarterly findings. The findings reveal long-term causal correlations between the variables examined in Slovakia. They have spoke about the positive impact of foreign direct investment and exports on the economy. On the basis of the analysis approach and the available time series, the widely held view on foreign direct investment has had a favorable impact on the country's economic development.

Ahmed (2012) investigated how Malaysia's productivity growth is influenced by human resources, labor force and absorption potential, physical infrastructure as a control variable, FDI inflows, and GDP. Quarterly time series data was used from 1999 to 2008. The effects of FDI inflows on human resources, labor force, absorption ability, and physical capital were examined in this report. The data was computed using the Ordinary Lowest Squares (OLS) regression in the first step, and the performance metrics were determined using the OLS regression in the second step. The findings suggest that foreign direct investment (FDI) inflows and inputs have a negative effect on total factor productivity (TFP). Meanwhile, by input directed by the TFP contribution, FDI plays an important role in achieving economic development. Human resources, labor power, and absorption potential, which decides the spillover effect on Malaysia's economic growth (GDP), have shown a significant positive relationship in this regard, while physical capital has shown a significant negative relationship.

The burden of initiating a new phase of global transformation has shifted dramatically to the BRIC countries, according to Nandi and Sciences (2012). With the developing world's economies in shambles and indicators of development edging further away, the burden of launching a new phase of global transformation has shifted significantly to the BRIC countries (Brazil, Russia, India, China). A variety of factors will influence how these countries react to this enormous threat, one of which is their FDI patterns, both inward and outward. The aim of their paper was to look at FDI policies in BRIC countries in the past, current, and future, as well as their effect on

global economic sustainability. The following are the main points to consider while studying this paper: To compare the statistics and history of FDI patterns in BRIC countries over the last ten years; (ii) to investigate the effects of government policies on international trade in BRIC countries; (iii) to gain a better understanding of the impact of the ongoing economic crisis on current FDI trends in developed countries; and (iv) to investigate the scope for possible changes in FDI policies in BRIC countries. They hope that the study carried out in this paper will help at least to shed light on the challenging challenge of decisively understanding the paradigms of economic development in the BRIC nations and their ultimately cascading impact on the future economic survival of the world.

Jadhav (2012) investigated the relative importance of technical, social, and political influences in attracting FDI to the BRICS (Brazil, Russia, India, China, and South Africa) economies. Using panel data gathered over a ten-year duration, the analysis explores the key systemic determinants of FDI in the BRICS (2000-2009). Multiple regressions and a panel unit-root test were included in the study. Economic determinants include market size, trade flexibility, and natural capital, while structural and political determinants include Macroeconomic Stability (Inflation Rate), Political Stability / No Crime, Government Efficacy, Regulatory Efficiency, Corruption Prevention, Speech and Responsibility, and Rule of Law. These variables were selected based on the relative value of each in previous observational studies. The results suggest that economic interests take priority over structural and political influences in the BRICS countries. The findings show that real GDP-based market size is a core determinant of FDI, meaning that much of the spending in the BRICS is driven by a need to meet demand. Trade transparency, natural resource access, rule of law, and freedom of speech and responsibility are all statistically important, according to scientific analysis. Positive market-size coefficients and trade transparency mean that these measures boost overall inward FDI. The supply of natural resources has a negative effect on overall inward FDI, showing that FDI in BRICS economies is not driven by a need for resources.

After more than four decades of inward-looking import substitution with public oversight, India introduced the Modern Economic Policy (NEP) in 1991, following the economic downturn (Goswami & Saikia, 2012). The NEP abolished all aspects of export discrimination and implemented reforms in the areas of foreign exchange, finance, financial markets, and industry and government deregulation. The approval of global capital transfers has been granted. According to East Asian experience, FDI exporting the technology, management, and other skills required to leverage the country's strategic advantage to the host country has aided export-led development ventures. In this sense, their study had three objectives. First, it examines how FDI in India has evolved between 1991 and 2011. Second, using annual time series data, the relationship between FDI and generated exports was evaluated using the Vector Error Correction Model for the same time span (VECM). They discovered that FDI and exports had a bi-directional causal relationship. Finally, the paper discusses the present status of foreign direct investment (FDI) and exports in the North East Region (NER), with a focus on their prospects. Look East is the government's strategy (LEP). The area's geographical positioning could be advantageous. Despite having the inherent advantage of trade with neighboring countries and the potential to grow various industries as a result of being endowed with abundant natural resources, the NER is unable to attract significant FDI due to infrastructural and other bottlenecks. It is critical to take strategic steps to remove those underlying constraints.

The BRICS community of nations, which comprises Brazil, Russia, India, China, and South Africa, are the most developed economies in the developing world, according to Nistor (2015). The aim of his paper is to examine FDI flows in the BRICS economy. The amount and nature of FDI flows have an effect on the host country. Host countries are struggling internationally to attract larger amounts of FDI in the new economic situation. The BRICS Community provides a plethora of benefits to global investors, including a youthful labor population, low-cost labor capital, natural resources, and a large economy.

Dritsaki and Stiakakis (2014) looked at the relationship between foreign direct investment, exports, and economic development in Croatia using annual time series data from 1994 to 2012. Among the econometric

methods used are the ARDL approach and the ECM-ARDL model. Their results back up the idea that exports and growth have a long-term and short-term bidirectional causal relationship. These findings include a variety of insights and reflections into a more balanced contemporary Croatian economic development agenda.

An econometric methodology was used to investigate the effect of FDI and associated externalities on economic development in transition economies (Silajdzic & Mehic, 2015). They also contributed to recent literature by using more detailed FDI metrics, portraying the essence of FDI and related information spillovers, and looking into the role of technical and creative capacities in determining the growth success of previously unstudied transition economies. Overall, the findings of our empirical study seem to support the hypothesis that FDI promotes economic development mainly through knowledge spillovers, and that higher levels of technical innovation fueled by government and private sector R&D investment are correlated with greater growth potential in transition economies. Essentially, the method used to calculate FDI in this analysis (i.e. the share of FDI in the output of gross value added) and the interconnected context in which they analyze the relationship between FDI and economic growth lead to the conclusion that FDI's positive effect on economic growth is related to increased knowledge-ability and efficiency-seeking FDI. Using a threshold regression model, Azman-Saini and Law (2010) discover new proof that the positive effect of FDI on growth "kicks in" only after financial markets are established. FDI would be of no use by then.

3. METHODOLOGY

The following data and techniques were used to do exploratory analysis: Explorative analysis was carried out according to the following data and methods:

3.1. Data

For the years 1990-2018, secondary panel data was compiled for 14 regional alliances countries around the world from the World Bank's World Development Indicators. The data is based on 14 regional alliances countries, 29 years, and 9 variables. Data correction was performed to harmonize the data for cross comparison since it was provided in various units of currency and figures. For the analysis, it was first log normalized. After that, the data were first degree separated to eliminate the autocorrelation problem.

3.2. Methods

A step-by-step model-based composite analysis was carried out. The Ordinary Least Squares (OLS) model was used first to describe the relationship between FDI and macroeconomic variables within these 14 alliances. The relationship between FDI and macroeconomic variables was then determined using the Pooled Ordinary Least Squares (POLS) model. The Drisc/Kraay (DK) model was also used to find a connection between FDI and macroeconomic variables. Then the two stage least square model (2SLS) was used to describe the relationship between FDI and macroeconomic variables using STATA 15. Finally, the Generalized Method of Moments (GMM) was used to classify important explanatory variables that can explain why FDI and macroeconomic variables are related.

3.3. Variables and Description

lnFDI denotes log normal of foreign direct investment, net inflows (BoP, current) which is expressed in Billion USD. lnGDP denotes log normal of gross domestic product (current) which is also expressed in Billion USD.

Table-1. Comparative determinants analysis of 14 alliances

	African Union	APEC	Arab League	ASEAN	BIMSTEC	BRI	BRICS	EU	G7	G20	GATT	NAFTA	OECD	SAFTA
lnGDP	0.443***	1.023***	0.070	0.598***	1.269***	0.371***	2.519***	0.333**	0.805	2.100***	2.770***	1.111***	0.564***	1.257***
	(0.067)	(0.197)	(0.091)	(0.171)	(0.157)	(0.041)	(0.582)	(0.148)	(1.221)	(0.482)	(0.364)	(0.116)	(0.148)	(0.117)
lnGCF	0.440	-1.487*	1.690**	0.204	-0.211	1.047***	4.569	1.252	-8.362*	0.587	4.845***	1.225	0.112	-0.360
	(0.389)	(0.758)	(0.709)	(0.557)	(1.012)	(0.177)	(3.984)	(1.574)	(5.027)	(2.223)	(1.693)	(0.876)	(1.469)	(0.577)
lnAFFva	-0.198	0.033	-0.252	-0.956***	-6.883***	-0.368**	1.996**	0.475	1.749	0.628	1.306**	-0.191	-0.707	-4.404***
	(0.300)	(0.246)	(0.512)	(0.297)	(0.851)	(0.147)	(0.993)	(0.755)	(1.810)	(0.714)	(0.644)	(0.296)	(0.603)	(1.011)
lnInva	0.916**	-0.154	-0.467	-1.840	-1.718	0.020	-7.890**	0.803	-0.905	-0.825	0.197	0.177**	1.596***	1.114
	(0.361)	(0.350)	(0.386)	(1.427)	(1.649)	(0.186)	(3.355)	(0.572)	(0.602)	(0.558)	(0.551)	(0.074)	(0.424)	(1.155)
lnIM	2.106***	3.501**	2.069*	2.029	-1.630	0.406	-8.541**	0.050	10.652*	9.600***	5.972***	0.362	2.724	0.772
	(0.644)	(1.581)	(1.170)	(1.888)	(1.782)	(0.370)	(3.539)	(3.563)	(5.436)	(2.289)	(1.856)	(0.800)	(2.679)	(1.340)
lnEX	-3.032***	-1.668	-0.801	-1.992	0.157	0.141	7.948***	-1.965	-7.840	-8.325***	-4.099***	0.425	-5.294**	-1.676
	(0.655)	(1.529)	(1.174)	(2.098)	(1.902)	(0.396)	(2.859)	(3.222)	(5.488)	(2.024)	(1.399)	(0.687)	(2.406)	(1.391)
lnINF	-0.322**	-0.398*	0.024	0.006	0.590	-0.033	0.127	0.037	-0.557	0.174	0.592	0.015	0.509	0.746
	(0.164)	(0.222)	(0.297)	(0.310)	(0.615)	(0.101)	(0.247)	(0.351)	(0.815)	(0.309)	(0.371)	(0.118)	(0.321)	(0.548)
lnUNEM	0.680**	-0.220	0.042	-1.951***	0.557	0.252	3.607***	2.019***	-0.469	1.212*	1.596***	-0.133	1.849***	1.047**
	(0.307)	(0.496)	(0.578)	(0.584)	(0.529)	(0.160)	(0.680)	(0.622)	(1.263)	(0.625)	(0.553)	(0.138)	(0.555)	(0.492)

Note: Standard errors are in parenthesis.

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

Table-2. Comparative model analysis.

Models / Variables	OLS		POLS		DK		2SLS		GMM	
	(1) Positive Relationship	(2) Negative Relationship	(3) Positive Relationship	(4) Negative Relationship	(5) Positive Relationship	(6) Negative Relationship	(7) Positive Relationship	(8) Negative Relationship	(9) Positive Relationship	(10) Negative Relationship
lnGDP	All except G7		All except Arab League and EU		All except Arab League and G7		All except Arab League and G7		African Union, APEC, BRI, BRICS, GATT, OECD	
lnGCF	Arab League, BRI, GATT	APEC, G7	BRI	G7	Arab League, BRI, GATT, NAFTA	APEC	Arab League, BRI, GATT	APEC, G7	BRI	
lnAFFva	BRICS,GATT	ASEAN, BIMSTEC, BRI, SAFTA	BRICS	Afrian Union, ASEAN, BIMSTEC, BRI, SAFTA	GATT	ASEAN, BIMSTEC, SAFTA	BRICS, GATT	ASEAN, BIMSTEC, SAFTA		BRICS
lnInva	African Union, NAFTA, OECD	BRICS	African Union, BRI, NAFTA, OECD	BRICS	OECD	G7, G20	African Union, NAFTA, OECD	BRICS	OECD	
lnIM	African Union, APEC, Arab League, G7, G20, GATT	BRICS	African Union, ASIAN, BRI, G7	BRICS	African Union, APEC, G7, G20, GATT		African Union, APEC, G20, GATT	BRICS	G20	
lnEX	BRICS	African Union, G20, GATT, OECD	BRICS	African Union, ASEAN, BRI	BRICS	African Union, G20, GATT, OECD, SAFTA	BRICS	African Union, G20, GATT, OECD	BRICS	OECD
lnINF		Afrian Union, APEC		Afrian Union, APEC	GATT, SAFTA	Afrian Union		Afrian Union, APEC		
lnUNEM	African Union, BRICS, EU, G20, GATT, OECD, SAFTA	ASEAN	BRI, BRICS, EU, GATT, OECD, SAFTA	ASEAN	EU, G20, GATT, OECD, SAFTA	ASEAN	African Union, BRICS, EU, G20, GATT, OECD, SAFTA	ASEAN	OECD	ASEAN

lnGCF, lnAFFva, lnInva, lnIM, lnEx denotes log normal of Gross Capital Formation, value added of Agriculture, forestry, and fishing, value added of Industry (including construction), imports of goods and services and exports of goods and services and these variables are expressed in percentage of gross domestic products. InINF denotes inflation, consumer prices (annual) which is expressed in percentage. InUNEM denotes Unemployment, total and expressed in percentage of total labor force.

4. FINDINGS AND ANALYSIS

4.1. Comparative Determinants Analysis of 14 Alliances

In Table 1 described Second Stage Least square Method (2SLS), foreign direct investment has positive impact on gross domestic product in all regions except Arab League and G7. In case of GCF and FDI, Arab League, BRI, GATT countries have significant positive relationship and APEC, G7 countries have significant negative relationship. In case of value added of AFF and FDI, BRICS, GATT countries have significant positive relationship and ASEAN, BIMSTEC, SAFTA countries have significant negative relationship. In case of value added of industry and FDI, African Union, NAFTA, OECD countries have significant positive relationship and BRICS countries have significant negative relationship. In case of import of goods and services and FDI, African Union, APEC, G20, GATT countries has significant positive relationship and BRICS countries have significant negative relationship. In case of export of goods and services and FDI, BRICS countries have significant positive relationship and African Union, G20, GATT, OECD countries have significant negative relationship. In case of inflation and FDI, African Union, APEC countries have significant negative relationship. In case of unemployment and FDI, African Union, BRICS, EU, G20, GATT, OECD, SAFTA countries have significant positive relationship and ASEAN countries have significant negative relationship.

Table 2 Column (1) and (2), In Ordinary Least Square Method (OLS) foreign direct investment has positive impact on gross domestic product in all regions except G7. In case of Arab League, BRI, GATT countries, FDI have significant positive relationship with GCF. On the other hand, APEC, G7 have the significant negative relationship with FDI and GCF. In case of AFF and FDI, BRICS,GATT countries has significant positive relationship and ASEAN, BIMSTEC, BRI, SAFTA countries have significant negative relationship. In case of value added of industry and FDI, African Union, NAFTA, OECD countries has significant positive relationship and BRICS countries have significant negative relationship. In case of import of goods and services and FDI, African Union, APEC, Arab League, G7, G20, GATT countries has significant positive relationship and BRICS countries have significant negative relationship. In case of export of goods and services and FDI, BRICS countries have significant positive relationship and African Union, G20, GATT, OECD countries have significant negative relationship. In case of inflation and FDI, African Union, APEC countries have significant negative relationship. . In case of unemployment and FDI, African Union, BRICS, EU, G20, GATT, OECD, SAFTA countries have significant positive relationship and ASEAN countries have significant negative relationship.

Table 2 Column (3) and (4), In Pooled Ordinary Least Square Method (POLS) foreign direct investment has positive impact on gross domestic product in all regions except Arab League and EU. In case of GCF and FDI, BRI countries have significant positive relationship and G7 countries have significant negative relationship. In case of value added of AFF and FDI, BRICS countries have significant positive relationship and African Union, ASEAN, BIMSTEC, BRI, SAFTA countries have significant negative relationship. In case of value added of industry and FDI, African Union, BRI, NAFTA, OECD countries has significant positive relationship and BRICS countries have significant negative relationship. In case of import of goods and services and FDI, African Union, ASIAN, BRI, G7 countries has significant positive relationship and BRICS countries have significant negative relationship. In case of export of goods and services and FDI, BRICS countries have significant positive relationship and African Union, ASEAN, BRI countries have significant negative relationship. In case of inflation and FDI, African Union, APEC countries have significant negative relationship. In case of unemployment and FDI, BRI, BRICS, EU, GATT,

OECD, SAFTA countries have significant positive relationship and ASEAN countries have significant negative relationship.

Table 2 Column (5) and (6), In Driscoll-Kraay Method (DK) foreign direct investment has positive impact on gross domestic product in all regions except Arab League and G7. In case of GCF and FDI, Arab League, BRI, GATT, NAFTA countries have significant positive relationship and APEC countries have significant negative relationship. In case of value added of AFF and FDI, GATT countries have significant positive relationship and ASEAN, BIMSTEC, SAFTA countries have significant negative relationship. In case of value added of industry and FDI, OECD countries have significant positive relationship and G7 and G20 countries have significant negative relationship. In case of import of goods and services and FDI, African Union, APEC, G7, G20, GATT countries has significant positive relationship. In case of export of goods and services and FDI, BRICS countries have significant positive relationship and African Union, G20, GATT, OECD, SAFTA countries have significant negative relationship. In case of inflation and FDI, GATT, SAFTA countries have significant positive relationship and African Union countries have significant negative relationship. In case of unemployment and FDI, EU, G20, GATT, OECD, SAFTA countries have significant positive relationship and ASEAN countries have significant negative relationship.

Table 2 Column (7) and (8), In Second Stage Least square Method (2SLS), foreign direct investment has positive impact on gross domestic product in all regions except Arab League and G7. In case of GCF and FDI, Arab League, BRI, GATT countries have significant positive relationship and APEC, G7 countries have significant negative relationship. In case of value added of AFF and FDI, BRICS, GATT countries have significant positive relationship and ASEAN, BIMSTEC, SAFTA countries have significant negative relationship. In case of value added of industry and FDI, African Union, NAFTA, OECD countries have significant positive relationship and BRICS countries have significant negative relationship. In case of import of goods and services and FDI, African Union, APEC, G20, GATT countries has significant positive relationship and BRICS countries have significant negative relationship. In case of export of goods and services and FDI, BRICS countries have significant positive relationship and African Union, G20, GATT, OECD countries have significant negative relationship. In case of inflation and FDI, African Union, APEC countries have significant negative relationship. In case of unemployment and FDI, African Union, BRICS, EU, G20, GATT, OECD, SAFTA countries have significant positive relationship and ASEAN countries have significant negative relationship.

Table 2 Column (9) and (10), In Generalized Methods of Moments (GMM) Methods, foreign direct investment has positive impact on gross domestic product in African Union, APEC, BRI, BRICS, GATT, OECD countries. In case of GCF and FDI, BRI countries have significant positive relationship. In case of value added of AFF and FDI, BRICS countries have significant negative relationship. In case of value added of industry and FDI, OECD countries have significant positive relationship in case of import of goods and services and FDI, G20 countries has significant positive relationship. In case of export of goods and services and FDI, BRICS countries have significant positive relationship and OECD countries have significant negative relationship. In case of unemployment and FDI, OECD, SAFTA countries have significant positive relationship and ASEAN countries have significant negative relationship.

5. CONCLUSION

Finally, it is found that foreign direct investment and gross domestic product have the positive relationship among all the regions except G7 in OLS method, except Arab League and EU in POLS method, except Arab League and G7 in DK and 2SLS methods. On the other hand, in GMM methods, only African Union, APEC, BRI, BRICS, GATT, OECD countries have significant positive relationships between FDI and GDP.

In case of gross capital formation and foreign direct investment, Arab League, BRI, GATT countries have significant positive relationships and APEC, G7 countries have significant negative relationships in OLS method. In

FDI and GCF, BRI countries have significant positive and G7 countries have significant negative relationship in POLS method, Arab League, BRI, GATT, NAFTA have significant positive and APEC countries have significant negative relationship in DK method, Arab League, BRI, GATT countries have significant positive and APEC, G7 countries have significant negative relationship in 2SLS method and BRI countries have significant positive relationship in GMM method.

In case of value addition of agriculture, forestry and fishing and foreign direct investment, BRICS, GATT countries have significant positive relationships and ASEAN, BIMSTEC, BRI, SAFTA countries have significant negative relationships in OLS method. In FDI and AFFva, BRICS countries have significant positive and African Union, ASEAN, BIMSTEC, BRI, SAFTA countries have significant negative relationship in POLS method, GATT countries have significant positive and ASEAN, BIMSTEC, SAFTA countries have significant negative relationship in DK method, BRICS, GATT countries have significant positive and ASEAN, BIMSTEC, SAFTA countries have significant negative relationship in 2SLS method and BRICS countries have significant negative relationship in GMM method.

In case of value addition of industry and foreign direct investment, African Union, NAFTA, OECD countries have significant positive relationship in OLS method, African Union, BRI, NAFTA, OECD countries have significant positive relationship in POLS method, African Union, NAFTA, OECD countries have significant positive relationship in 2SLS method, OECD countries have significant positive relationship in both DK and GMM methods. On the other hand, in case of value addition of industry and foreign direct investment, only BRICS countries have significant negative relationship in OLS, POLS and 2SLS methods and G7, G20 countries have significant negative relationship in DK methods.

In case of import of goods & services and foreign direct investment, African Union, APEC, Arab League, G7, G20, GATT countries have significant positive relationship in OLS method, African Union, ASIAN, BRI, G7 countries have significant positive relationship in POLS method, African Union, APEC, G20, GATT countries have significant positive relationships in DK method, African Union, APEC, G7, G20, GATT countries have significant positive relationship in 2SLS method, G20 countries have significant positive relationship in GMM methods. On the other hand, in case of value addition of industry and foreign direct investment, only BRICS countries have significant negative relationship in OLS, POLS and 2SLS methods.

In case of export of goods & services and foreign direct investment, BRICS countries have significant positive relationship in all methods. On the other hand, African Union, G20, GATT, OECD countries have significant negative relationships in OLS methods, African Union, ASEAN, BRI countries have significant negative relationships in POLS method, African Union, G20, GATT, OECD, SAFTA countries have significant negative relationships in DK method, African Union, G20, GATT, OECD countries have significant negative relationships in 2SLS method, OECD countries have significant negative relationships in GMM method.

In case of inflation and foreign direct investment, GATT and SAFTA countries have significant positive relationship in DK method. On the other hand, African Union, APEC countries have significant negative relationships in OLS, POLS, 2SLS methods and only African Union countries have significant negative relationships in DK method.

In case of unemployment rate and foreign direct investment, African Union, BRICS, EU, G20, GATT, OECD, SAFTA countries have significant positive relationship in OLS method, BRI, BRICS, EU, GATT, OECD, SAFTA countries have significant positive relationship in POLS method, EU, G20, GATT, OECD, SAFTA countries have significant positive relationship in DK method, African Union, BRICS, EU, G20, GATT, OECD, SAFTA countries have significant positive relationship in 2SLS method and OECD countries have significant positive relationship in GMM method. On the other hand, ASEAN countries have significant negative relationships in all methods.

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