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great by
deeds, not by
birth"

-Chanakya

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Does Economic Freedom Influence the FDI - Growth Nexus in BRICS-ASEAN Economies?

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Abstract

This paper examines the relationship between foreign direct investment, economic freedom and economic growth in BRICS-ASEAN countries. Further, we investigate the role of economic freedom in conjunction with productive capacities, human capital and financial institutions in spillover of foreign direct investment to economic growth. We apply Two Stage Least Square method for this analysis. We find a positive role of economic freedom along with productive capacities, human capital and financial institutions on transmission of foreign direct investment to economic growth. This demonstrates that productive capacities, human capital and financial institutions, apart from economic freedom, are instrumental in spillover of foreign direct investment to economic growth in the economies of BRICS-ASEAN. We provide the policy implications of our study.

1. Introduction

We study the role of economic freedom in the relationship between FDI and economic growth of BRICS and ASEAN economies. While the literature has considered the effects of FDI on economic growth (de Mello, 1997; 1999; Herzer and Klasen, 2008; Iamsiraroj and Ulubaşoğlu, 2015), it is important to note that there are domestic institutional factors that can help attract foreign investments and enable the investments to drive growth in the host country. One such institutional factor is economic freedom. The role of economic freedom in growth stems from the freedom of institutions which ultimately facilitates economic activity. Landes (1998) cites the importance of cultural norms and institutions to explain why certain countries are rich while

some remain poor. Studies have shown that cross-country variation in economic development may be explained by economic freedom (see for instance, Yang 2007; Nelson and Singh 1998 and Azman et al. 2010). Some of the factors which are instrumental in economic progress of a country are competition in business, trade with others, property rights, freedom to choose and supply of resources (North and Thomas 1973).

The aforementioned factors – the ingredients of economic freedom— facilitate and make the business environment conducive for investor interest, resulting in higher FDI inflow and enhanced economic activities, particularly by foreign investors who may otherwise find it harder than domestic entrepreneurs to navigate the complexities of a host economy. Hence, a country might enjoy amplified benefits from FDI if it has more economic freedom. Economic freedom also has a positive influence on the confidence levels of investors, producers and consumers. For instance, Nikolaev (2014) find a positive correlation between economic freedom and well-being of OECD countries. Leavell et al. (2004) find that economic freedom may lead to higher inflow of FDI in African countries. They argue that political structure, efficient markets, level of corruption etc. can influence the inflow of FDI in host countries. While it is expected that the higher levels of FDI will translate into growth, it is of interest to explore the role played by economic freedom in the FDI-growth nexus. However, this question has not been sufficiently addressed in the literature. The present paper explores this issue using panel data on BRICS and ASEAN economies.

Numerous studies have examined the influence of macroeconomic factors on economic growth. Although the nature of the impact is highly debated, FDI is known to play an important role in economic growth (Nair-Reichert et al. 2001; Alfaro et al. 2004; Gui-Diby 2014; Pegkas 2015; and Iamsiraroj and Ulubasoglu 2015). One of the ways in which FDI influences economic growth is through technology spillovers as technological factors are known to play a key role in economic growth (Parente 1994; Carlaw and Lipsey 2003; Herrerias and Orts

2013 and Seck 2012). However, there is much discussion over whether FDI inflow results in the economic growth of the country. FDI can exert “level effect¹” (Solow, 1956; Zhang and Zhang 2003; and Basu and Guariglia 2007) or “rate effect²” (Zhang 2001; Chakraborty and Nunnenkamp 2008; and Abbas et al. 2015). In the case of Solow Model, FDI could not be considered as a determinant of economic growth, but new growth theories have shown FDI as having both level effect as well as rate effect on output. FDI can have indirect effects on economic growth through various channels such as sales, profit, employment, and wages (Bhattarai and Negi 2020).

Research on the relationship between FDI and growth took a leap during the 1980s when many countries liberalized their economies to allow foreign investments. There is evidence which shows that economic growth responds positively to FDI inflows (De Mello 1999, Quazi 2007, Choong et al. 2010, Omri 2014, Abbas et al. 2015, Pegkas 2015). There are also studies that show no clear nexus between FDI and growth (Ericsson and Irandoust 2001, Herzer et al. 2008) and in some cases even a negative effect of FDI on growth (Moran 1998, Gorg and Greenaway 2004).

Studies have stressed that the impact of FDI on economic growth is conditioned on minimum social and human capital, economic and political stability, liberalization of markets and adequate infrastructure (Abramovitz 1986, Fisher 1993, Borensztein et al 1998, De Mello 1999, Obwona 2001). To better understand the FDI and growth nexus, it is imperative to investigate the importance of economic freedom which works through the institutional quality factors, i.e. the way institutions provide an environment which is conducive to prosperity. There are many studies which suggest role of institutional background in the growth of countries (Olson 1996,

¹ Level effect explains the relative position of a country on the growth trajectory, i.e. level or position with respect to development standards such as rich or poor.

² Rate effect means the rate at which a country is growing. It causes countries to diverge or converge with respect to level or position on the growth trajectory; hence rate effect explains level effect as well.

Landes 1998, Easterly 2008). Busse and Hefekar (2007), based on 83 developing countries, show that government stability, internal and external conflict, corruption and ethnic tensions, law and order, etc. are highly significant determinants of foreign investment inflows. Ali et al. (2010) argue that institutions are a robust predictor of FDI and that the most significant institutional aspects are linked to propriety rights. Kaur Yadav, and Gautam (2013) show that FDI is positively influenced by size of the banking sector and stock market capitalization.

The focus of the existing studies has been on the direct causality between FDI and economic growth (Jadhav 2012, Agrawal 2015, and Aderemi et al 2019). Economic freedom may act as a conduit in the FDI- growth nexus through which larger benefits of FDI can be achieved. There are many factors which impact the decision of investors to invest in developing countries. Lamech and Saeed (2003) list the factors which play a crucial role in FDI inflow which include— among others—the stability and enforceability of laws and contracts and minimum government interference. Closely related to our work is Azman-Saini et al. (2010) who show for a panel of 85 developed and developing countries that the effect of FDI on output growth is contingent on the level of economic freedom (as measured by the Fraser Institute) in the host countries. However, the role of economic freedom in the FDI – economic growth nexus has not been researched in the context of BRICS-ASEAN countries. BRICS countries are the largest recipients of FDI as they receive 19 per cent of the world’s FDI outpacing G7 countries (World Investment Report 2018³). ASEAN countries have emerged as an important destination for foreign investors with a share of 13.7% in global FDI in 2020 (ASEAN Investment Report 2021⁴). One of the few studies is by Mostafa and Mahmood (2015) who analyze the challenges to G7 countries as FDI inflow is rising in BRICS countries. These developments herald further

³ https://unctad.org/system/files/official-document/wir2018_en.pdf

⁴ <https://asean.org/wp-content/uploads/2021/09/AIR-2020-2021.pdf>

improvements in investor friendly environment, especially in the factors of economic freedom, which can help in making BRICS and ASEAN nations even more attractive for FDI inflows.

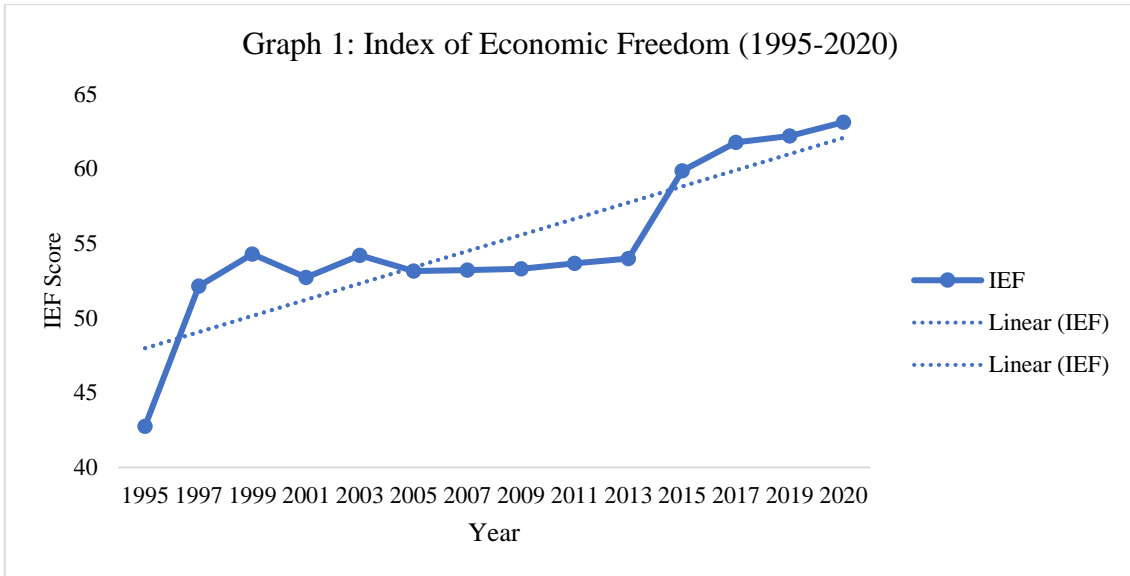
Our study is the first to analyse the interplay between FDI, economic freedom and economic growth for the BRICS-ASEAN economies. The only existing study which explores the interaction between FDI, economic freedom and economic growth in BRICS countries is Haydaroglu (2016) who uses data for 1995-2013 and economic freedom measure of the Heritage Foundation. But that study ignores factors like productive capacities, human capital and financial institutions that we consider. Specifically, our paper is different in four ways. First, ours is the first study to examine the role of economic freedom (in conjunction with productive capacities, human capital and financial institutions) in the FDI-growth nexus across the countries of BRICS-ASEAN. Second, we use the technique of two-stage least squares panel regression that allows us to overcome the endogeneity problem inherent in previous studies such as Haydaroglu (2016). Third, we use data for a longer and more recent period. We analyze the period 1995-2020 spanning 26 years, an extended duration compared to previous studies, that can help in understanding the dynamism or changes relative to previous findings. Finally, we use the Economic Freedom Index of Heritage Foundation as a proxy for economic freedom in a country, while most previous studies have used the Index of Economic Freedom of the Fraser Institute. Heritage Foundation's index has the advantage of including freedom from corruption (Ram, 2014) which is a crucial factor in economic relations in developing countries. Our results show that economic growth can gain from FDI only when there is higher economic freedom. We find that the role of economic freedom is amplified by productive capacities, human capital and financial institutions in the host countries.

The remainder of paper is organized as follows. Section 2 presents the details of the data used in our analysis. Section 3 discusses the methodology. Sections 4 presents the empirical analysis and discusses the findings. Finally, section 5 concludes.

2. Data

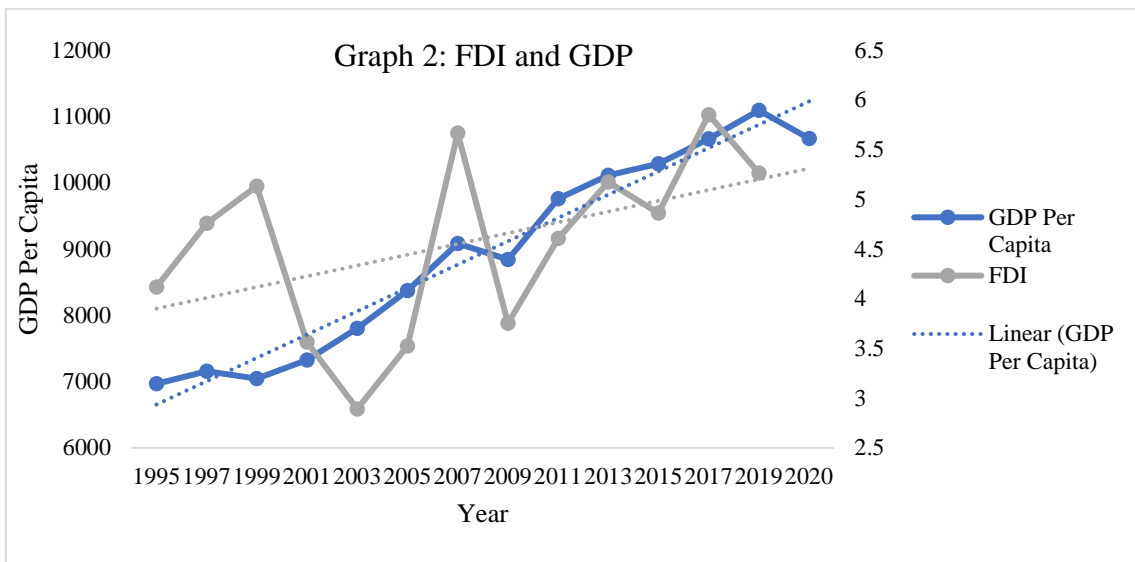
Our main variables pertain to FDI, economic freedom (interacted with Productive Capacities Index, Human Capital Index and Financial Institutions Index) and economic growth in fifteen countries of the BRICS-ASEAN group (please refer Table A2 in Appendix A). The data sources used in this study have been summarized in appendix- A (Table A1). Our sample period covers 26 years i.e. 1995-2020. We chose this time period as it has been a conducive period for attracting FDI in BRICS and ASEAN economies because of opening of these economies (liberalization and privatization) in the early 1990s. For example, after opening of the Indian economy to the rest of the world in 1991, there has been a consistent increase in FDI in India. Similarly, Russia's FDI inflow has been increasing over the same period despite many difficulties such as sanctions from the West.

As mentioned earlier, we measure economic freedom using the Index of Economic Freedom of Heritage Foundation as it offers an alternative to the frequently used Fraser Institute's index and in particular has the advantage of capturing freedom from corruption - a crucial factor in ease of economic activity in BRICS countries (that the Fraser index ignores). Graph 1 shows the movement in average Index of Economic Freedom for BRICS and ASEAN countries for the sample period 1995-2020. We observe an upward trend but spikes from mid 1990s to late 1990s and again after 2012 while flattening in between.



Movement in average Index of Economic Freedom for BRICS and ASEAN (1995-2020).

Graph 2 shows the movement in average GDP per capita and average FDI inflows for BRICS and ASEAN economies during 1995-2020. We observe consistent upward trends in GDP per capita while FDI shows upward trend with volatility.



Movement in average GDP per capita and FDI for BRICS and ASEAN (1995-2020). Primary axis shows average GDP per capita, and the secondary axis depicts net inflow of FDI as a percentage of GDP.

Table 1 shows the descriptive statistics for BRICS-ASEAN economies. We report mean, median, standard deviation minimum and maximum of all the variables employed in our study.

Table 1
Descriptive Statistics: ASEAN-BRICS (1995-2020)

	Mean	Median	Std. Dev.	Min	Max
Economic Growth	8.245	8.214	1.320	5.529	10.992
FDI	4.451	2.992	5.030	-2.757	32.170
IEF	58.33	56.600	11.219	33.500	89.400
Trade Openness	98.416	68.837	84.564	0.167	437.327
Inflation	7.773	5.275	13.890	-22.091	144.007
GFCF	25.258	23.851	7.400	10.465	44.519
Productive Capacity Index	29.590	29.884	5.877	17.184	44.462
Human Capital Index	47.995	46.248	9.530	30.004	77.484
Financial Institution Index	0.407	0.383	0.179	0.068	0.740

IEF (Index of Economic Freedom by Heritage Foundation) is indexed from 1 to 100 scale. FDI is expressed as a percentage of GDP. Trade Openness is measured by percentage of export-import to GDP. Inflation is proxied by GDP deflator and GFCF (Gross Fixed Capital Formation) measured as a percentage of GDP. Economic growth is measured by log of per capita GDP at constant 2010 US dollar.

3. Methodology

3.1 Panel Unit Root Test

To check for the stationarity of variables, we have applied panel unit root tests covering four types of tests, viz. Levin, Lin, and Chu (LLC), Im, Pesaran and Shin (IPS), Fisher Augmented Dickey–Fuller (Fisher ADF) and Fisher Phillips–Perron (Fisher PP). For the LLC and IPS tests, we follow Levin et al. (2002) and Im et al. (2003) and estimate the equation given below.

$$\Delta y_{it} = \alpha_i + \delta_{it} + \rho_i Y_{i,t-1} + \sum_{l=1}^{\rho_i} \Phi_{il} \Delta y_{i,t-1} + \varepsilon_{it} \quad (1)$$

$i = 1, \dots, N; t = 1, \dots, T$

where y_{it} is the variable value for panel member i in period t , ε_{it} is assumed to be independent and identically distributed $IID(0, \sigma_\varepsilon^2)$ across and Δ denotes the first-difference operator.

In above specification, for LLC and IPS tests, the null hypothesis (non-stationarity) is based on zero value of the ρ parameter (Levin et al. 2002; Im et al. 2003) while the Fisher ADF and Fisher PP tests are based on combining the p-values of the underlying ADF and PP statistics (Madalla and Wu, 1999; Choi, 2001).

3.2 Two-stage Least Squares Panel Regression

We estimate the following two-stage least squares panel regression which allows economic growth to be explained by Foreign Direct Investment (FDI) which is instrumented by the Index of Economic Freedom (IEF), Productive Capacities Index (PCI), Human Capital Index (HCI) and Financial Institution Index (FII). The first and second stages of the regression are as follows:

$$FDI_{it} = \alpha_0 + \alpha_1 IEF_{it} + \alpha_2 IEF_{it} * PCI_{it} / HCI_{it} / FII_{it} + \epsilon_{it} \quad (2)$$

$$\ln GDPPerCapita_{it} = \beta_0 + \beta_1 \widehat{FDI}_{it} + \beta_2 Trade\ Openness_{it} + \beta_3 Inflation_{it} + \beta_4 GFCF_{it} + Y_{it} \quad (3)$$

where i represents observation of cross section units (countries) and t represents time (years). The dependent variable in the first stage is log of real GDP per capita and the independent variable is Index of Economic Freedom (IEF) and its interaction terms with PCI_{it} , HCI_{it} , and FII_{it} . In the second stage, the dependent variable is per capita GDP which is explained by predicted values of FDI from the first stage. Trade Openness, Inflation and gross fixed capital formation are the control variables.

4. Results and Discussion

4.1 Panel Unit Root Test

Table 2 reports the panel unit root tests for all the variables used in our analysis. We observe that all the variables are stationary at level as shown by at least one test. Hence, we proceed with the analysis by using all the variables at their levels.

Table 2
Panel Unit Root Test: BRICS-ASEAN (1995- 2020)

	Intercept Only in the regression				Intercept and trend in the regression			
	LLC	IPS	ADF	PP	LLC	IPS	ADF	PP
Economic Growth	-3.707***	2.040	13.650	11.997	5.935	4.792	13.352	11.359
FDI	-3.517***	-4.490***	75.002***	81.506***	-4.124***	-4.638***	73.689***	82.484***
IEF	0.088	-0.074	33.193	28.532	-1.435*	-0.383	38.050	30.539
Trade Openness	-0.079	0.450	28.778	25.335	-0.317	-1.411*	50.925***	51.806***
Inflation	-34.883***	-19.034***	169.177***	170.232***	-29.318***	-18.879	409.086***	662.808***
GFCF	-3.191***	-2.371***	50.206**	62.708***	0.207	0.897	23.087	28.324
Productive Capacity Index	-2.648***	2.714	28.950	32.438	0.870	2.836	16.952	13.015
Human Capital Index	-3.199***	1.991	31.775	60.173	-1.179	0.415	33.257	28.674
Financial Institution Index	0.477	2.665	23.643	20.308	-2.380***	-0.957	36.563	26.180

LLC, IPS, ADF and PP stand for Levin Lin and Chu, Im Pearson and Sim, Augmented Dickey Fuller and Phillips- Perron Tests. ***, **, * Indicate significance at 1%, 5% and 10% levels, respectively.

4.2 Regression Results

We estimate the two-stage least squares panel regression and report the results in Table 3. We present results in the upper panel for the first stage while the lower panel shows the results for the second stage. The instruments' relevance is confirmed by non-rejection of the Sargan-Hansen test and the F/Wald-statistic of the first stage exceeding 10, a thumb-rule given by Staiger and Stock (1997). We find that in the random effects estimation (that is recommended by the Hausman test), the first stage estimates show there is a positive and significant effect of interaction between Index of Economic Freedom and Production Capacities Index ($IEF*PCI$) on FDI. In the second stage we observe that predicted value of FDI has a positive coefficient which implies that there is an increase in GDP per capita because of rise in FDI. We can infer from this outcome that to reap the benefit of FDI on economic growth, both economic freedom and productive capacities are instrumental. This is in line with the common argument that foreign investors who look to invest in a country consider the productive capacities of that country's economy. Similarly, we find that interaction term of Index of Economic Freedom and Human Capital Index ($IEF*HCI$) has positive effect on FDI which further has positive effect on economic growth. This results show that economic freedom along with human capital is crucial for the positive benefit of FDI which in turn increases the GDP per capita. This could be more crucial for the economies which receive a larger share of FDI in the services sector. For instance, India which receives a majority of its FDI in the services sector, needs to build a higher level of human capital so as to receive higher FDI flows which in turn will contribute to economic growth positively.

Finally, we observe that the interaction term of Index of Economic Freedom and Financial Institutions Index ($IEF*FII$) has a positive coefficient in the first stage. In the second stage, the predicted value of FDI has a positive effect on economic growth. It implies that better quality

financial institutions, along with economic freedom, has a positive effect on FDI which further results in economic growth.

Table 3
Two Stage Least Squares Panel Regression: BRICS-ASEAN (1995-2020)

	FDI		FDI		FDI	
	Fixed Effects	Random Effects [†]	Fixed Effects	Random Effects [†]	Fixed Effects	Random Effects [†]
<i>First Stage</i>						
IEF	-0.088 (0.066)	-0.088 (0.065)	-0.121* (0.068)	-0.125* (0.065)	0.018 (0.046)	0.019 (0.045)
IEF*PCI	0.005*** (0.001)	0.005*** (0.001)				
IEF*HCI			0.003*** (0.001)	0.003*** (0.001)		
IEF*FII					0.088*** (0.032)	0.088*** (0.032)
Trade Openness	0.002 (0.008)	0.004 (0.008)	0.008 (0.008)	0.011 (0.007)	0.003 (0.007)	0.005 (0.007)
Inflation	0.079** (0.034)	0.079** (0.034)	0.070** (0.034)	0.068** (0.033)	0.002 (0.014)	0.001 (0.014)
GFCF	0.038 (0.047)	0.037 (0.045)	0.064 (0.045)	0.061 (0.043)	-0.017 (0.035)	-0.017 (0.034)
Intercept	-1.104 (2.878)	-1.365 (4.046)	-1.609 (2.826)	-1.870 (2.946)	1.143 (2.405)	0.842 (3.134)
No. of Observations	260	260	260	260	331	331
R Squared	0.394	0.394	0.529	0.529	0.275	0.275
F- stat/ Wald	5.28***	29.00***	6.16***	39.00***	2.28**	13.00**
	Economic Growth		Economic Growth		Economic Growth	
<i>Second Stage</i>						
FDI	0.327*** (0.073)	0.326*** (0.069)	0.267*** (0.054)	0.266*** (0.049)	0.479*** (0.149)	0.486*** (0.146)
Trade Openness	0.001 (0.003)	0.001 (0.002)	0.001 (0.002)	-0.001 (0.002)	0.001 (0.003)	-0.001 (0.003)
Inflation	-0.026** (0.011)	-0.026** (0.011)	-0.023** (0.009)	-0.023** (0.009)	-0.001 (0.006)	-0.001 (0.006)
GFCF	-0.007 (0.016)	-0.007 (0.015)	-0.001 (0.013)	-0.001 (0.012)	0.016 (0.015)	0.015 (0.015)
Intercept	7.039*** (0.480)	7.203*** (1.050)	7.127*** (0.389)	7.383*** (0.507)	5.663*** (0.763)	5.831*** (1.238)
R Squared	0.141	0.138	0.141	0.130	0.130	0.124
F- stat/ Wald	33427.83***	28.22***	50280.29***	39.29***	16338.72***	15.09***

Dependent Variable: Foreign Direct Investment in first stage and GDP per capita in second stage. FDI in the second stage is predicted value of FDI as a result of Economic Freedom. ***, **, * Indicate significance at 1%, 5% and 10% levels, respectively. Standard error in parentheses. [†]Indicates the appropriate model as suggested by Hausman Test. F-stat is reported for Fixed Effects models and Wald Chi Square for Random Effects. IEF, PCI, HCI and FII stands for Index of Economic Freedom (Heritage Foundation), Productive Capacities Index (UNCTAD), Human Capital Index (UNCTAD), and Financial Institution Index (WEF), respectively.

When an investor thinks of investing in an economy, it also considers the availability and accessibility of financial resources needed for long-run as well as short-run expenses. Hence, a well-developed system of financial institutions is very important for FDI to flow into an economy. Our findings show that economic freedom alone is not enough stimulus for FDI inflows in BRICS-ASEAN economies. It requires productive capacities, human capital and well-established financial institutions to propel FDI into the host countries, which in turn will benefit them in terms of higher GDP per capita.

5. Conclusions

This paper investigates the relationship between FDI, economic freedom and economic growth in BRICS-ASEAN countries. We find the effect of FDI on economic growth to be positive which is itself caused by economic freedom in conjunction with productive capacities, human capital and existence of robust financial institutions. This shows the importance of enhancing economic freedom, productive capacities, human capital and financial institutions in BRICS-ASEAN economies. The policy implication of this finding is that the governments of these nations should give utmost importance to free up their economy of institutional hurdles which hinder in harnessing the benefits of FDI inflows. Besides, ample attention needs to be paid to creating productive capacities, human capital and high-quality financial institutions.

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Appendix- A

Table A1
Data Sources

Variables	Sources
1. Real GDP per Capita- USD- 2010.	World Development Indicators
2. Inflation	World Development Indicators
3. Trade Openness*	World Development Indicators
4. Index of Economic Freedom	Heritage Foundation, Washington, USA.
5. Foreign Direct Investment	International Financial Statistics, IMF
6. Productive Capacities Index	UNCTAD Website
7. Financial Institution Index	World Economic Forum
8. Human Capital Index	UNCTAD Website

*Trade as percentage of GDP.

Table A2
Countries Covered in Study

ASEAN	BRICS
Brunei	Brazil
Cambodia	Russia
Indonesia	India
Laos	China
Malaysia	South Africa
Myanmar	
The Philippines	
Singapore	
Thailand	
Vietnam	

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