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Article

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Empirical Investigation of Foreign Direct Investment and Current Account Balance in East Asian Economies

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Abstract

Among the Asian regions the East Asia is the largest recipient of foreign direct investment (FDI). The FDI by affecting the host country's exports and imports may also influence the current account balance (CAB) of that country. The East Asian economies are facing the persistent current account deficit. The current study investigates the impact of FDI inflows on CAB and on its components (exports and imports) for a panel of selected East Asian economies. The study employs System Generalized Method of Moments (Sys GMM) estimation technique on a panel of five countries for the years 2000-2016. FDI is found to have negative effect on current account deficit and positive effect on exports and imports of the selected economies. It is concluded that by improving the host country's exports, FDI inflows can improve CAB in case of East Asian selected economies.

Keywords: FDI inflows, Current account deficit, Exports, Imports, East Asia.

1. Introduction & Literature Review

The current account balance (CAB) of a country is considered as one of the primary determinants of future development path of the economy. A deficit in the current account accumulates pressure on external sector of the economy. Persistent current account deficit may threaten the macroeconomic position of the country. Developing economies have often been suffered by current account deficit. Moreover, the developing economies also face saving-investment gap and they are mostly in need of foreign capital inflows. Therefore they adopt liberal policies for capital flows. Capital inflows have become a vital source of financing for these developing economies but the unfettered flows of foreign capital can cause serious macroeconomic implications.

The increasing volume of the capital inflows can appreciate the domestic currency that can worsen the position of external balance of the country by increasing its imports and

reducing the exports (Abell, 1990; Kim et al., 2006). External sector imbalances can cause deterioration in internal balance (twin deficit phenomenon) and it can influence other macroeconomic goals of the economy. Therefore it becomes a great challenge for policymakers to introduce such policies that can reduce discrepancies in external balance resulting from free capital inflows.

Initially, the countries were relying on foreign loans to fill the saving-investment gap, but due to debt crises in the 1980s they gradually shifted to a more stable form of capital inflows that is foreign direct investment (FDI). FDI has emerged a safe and easiest form of capital inflows for developing nations (Agiomirgianakis et al., 2006). FDI is the form of foreign investment that takes place with the intention of having control over the enterprise in another country. In this form of investment the investor/company intends to have ownership rights of the enterprise (Balance of Payment Manual 05, International Monetary Fund).

In developing economies FDI is considered a significant component of balance of payments (BoP) account particularly of a capital poor economy. On the other hand, the growing amount of FDI is linked with the increasing volume of income outflows and the volume of exports and imports of the host economy (Ali & Shaheen, 2013; Hossain, 2008; Khan & Kim, 1999; Seabra & Flach, 2005.)

The East Asian economies have shown more economic openness to attract more inward flow of FDI and they received a significant volume of FDI. According to World Investment Report (UNCTAD, 2016) among the top ten FDI receiving economies 5 are developing ones. Moreover, inflows of FDI to developing economies is primarily developing Asia's story. Developing Asia received historically high amount of inward FDI (516 billion US \$) and become the top recipient region for inward FDI. In sub-regions of developing Asia, East Asia received the largest amount of inward FDI.

The literature on current account balance identified the GDP, real effective exchange rate, terms of trade and trade openness as major determinants of current account balance (Calderón et al., 2002; Kwalingana & Nkuna, 2009; Matlasedi, 2016; Umoru & Nwokoye, 2014; Selçuk, & Yardimcik, 2015), but now the FDI has also been added as one of the crucial determinants of the CAB.

The inflow of FDI may affect the overall economic activity of the host economy and it has deep impact on external balance of the host economy. The immediate impact of inward FDI on balance of payment of the host economy remains positive as it takes credit entry in capital account. However, the question arises that what kind of impact inward FDI has on international trade and current account balance in the long run.

1.1 Impact of FDI Inflows on Current Account Balance

A little part of literature has embarked on the impact of inward FDI on current account balance (CAB) of the host economy. It has diverse findings about the impact of inward FDI on current account balance. Some of the studies concluded that inward FDI improve the CAB and overall balance of payment of host country (Ehimare, 2011; Hossian, 2008; Kaur et al., 2012; Siddiqui and Ahmad, 2013). Others claimed that inward FDI can worsen the CAB of host economy, particularly through its implication on income account (Seabra & Flach, 2005; Gheorghe & Vasile, 2012; Jaffri et al., 2012; Ali & Shaheen,

2013; Rehman and Bristy, 2015; Strauss, 2015; Sahoo et al., 2016; Strauss, 2017). However, Nguku (2013) concluded that FDI has no effect on CAB of the host economy.

Using cointegration and Granger causality test, Siddiqui and Ahmad (2013) for Pakistan and Kaur et al. (2012) for India concluded that in the long-run there exists unidirectional causality from FDI to current account balance. Hossain (2008) and Ehimare (2011) concluded that inward FDI has positive impact on current account balance of the host economy. Hossain (2008) using descriptive analysis and Ehimare (2011) using simple OLS technique found positive impact of FDI on current account balance in Bangladesh and Nigeria respectively.

On the other hand Ali and Shaheen (2013), Gheorghe and Vasile (2012), Jaffri et al. (2012), Rehman and Bristy (2015), Sahoo et al. (2016) and Strauss, 2017 found negative effect of FDI on current account balance of SAARC countries and Asian economies respectively. Rehman and Bristy (2015) used simple regression analysis for a panel of SAARC countries, Sahoo et al. (2016) analyzed the panel of Asian economies and Gheorghe and Vasile (2012) investigated the Romania's economy and concluded that inward FDI can weaken the current account balance of the host economies.

A few number of studies have explored the influence of inward FDI on current account balance through its implication on income account (Ali & Shaheen, 2013; Jaffri et al., 2012; Seabra & Flach, 2005; Strauss, 2015; Strauss, 2017). They concluded that inward FDI can increase the outflows in the form of income earned through FDI and eventually it can worsen the current account balance of host economy. Seabra and Flach (2005) were the first who shed light on the relationship between FDI and profit repatriation for Brazil and concluded the bad effect of FDI on CAB. Jaffri et al. (2012) and Ali and Shaheen (2013) also found the positive association between inward FDI and profit outflows for the Pakistan economy and concluded the same type of results. Strauss (2015) and Strauss (2017) also found that increasing volume of inward FDI can contribute to current account deficit of South African countries adversely by increasing net income outflows.

1.2 The Impact of Inward FDI on Exports

Literature on the impact of FDI on international trade gave two different views, i.e. Complementary relationship between FDI and international trade, and substitutionary impact of FDI on international trade. Various studies on FDI and exports found the complementary relationship between FDI and international trade which indicated that FDI enhance the export and imports of host economy.

A number of studies has discussed the relationship between FDI inflows and exports of the host economy [Abual Foul & Soliman, 2008; Ahmad et al., 2003; Goh et al., 2013; Goswami & Saikia, 2012; Hossain, 2008; Jayakumar et al., 2014; Liu et al., 2001; Liu et al., 2002; Majeed & Ahmad, 2007; Popovici & Calin, 2017; Tabassum et al., 2012; Xiao, 2009; Yousaf et al., 2008; Zhang, 2005]. They concluded that inward FDI increases the exports of host economy.

Ahmad et al. (2003), Goswami and Saikia (2012) and Liu et al. (2002) used Johansen cointegration and Granger causality test to determine the long run relationship and direction of causality between exports and FDI. They found no causality between FDI

and exports. Goswami and Saikia (2012) found two way causal relationship between FDI and exports for India and Liu et al. (2002) demonstrated the causality running from FDI stock to exports for China.

China is the potential recipient for inward FDI. The impact of FDI inflows on exports of China is also explored by Liu et al. (2001), Xiao (2009) and Zhang (2005). They established a positive and statistically significant impact of inward FDI on exports of China. India also received a considerable amount of inward FDI. Jayakumar et al. (2014) explored the effect of FDI inflows on exports of India. They found the complementary connection between FDI and exports. Hossain (2008) has also shown same type of results for Bangladesh. Abual Foul (2008), Goh et al. (2013) and Popovici and Calin (2017) also found complementary association between exports and inward FDI of Middle Eastern and North African (MENA) countries, Malaysia and eight European states respectively. Majeed and Ahmad (2007), Tabassum et al. (2012) and Yousaf et al. (2008) tried to explain the effect of inward FDI on the exports of Pakistan economy. They found varying results. Majeed and Ahmad (2007) explored that FDI can increase the exports; Tabassum et al. (2012) found positive but insignificant impact of inward FDI on exports and Yousaf et al. (2008) concluded that in the short run inward FDI can reduce exports but in the long run FDI can enhance the exports of Pakistan.

1.3 The Impact of Inward FDI on Imports

A bulk of studies have estimated the impact of inward FDI on import demand function (Goh et al., 2013; Hossain, 2008; Jayakumar et al., 2014; Tabassum et al., 2012; Xiao, 2009; Yousaf et al., 2008). All these studies concluded that FDI inflows can increase the import demand of the host economy. Goh et al. (2013) established a positive impact of inward FDI on imports of Malaysia, Hossain (2008) and Jayakumar et al. (2014) identified that inward FDI can increase the imports of Bangladesh and India respectively, Tabassum et al. (2012) and Yousaf et al. (2008) concluded that that FDI can accumulate the imports of Pakistan, although Xiao (2009) claimed that inward FDI has a positive influence on imports of China but this impact was not so powerful for a big size economy of China.

In the perspective of analytical techniques employed by the studies in this area, the studies have used time series analysis for individual countries (Ali & Shaheen, 2013; Ehimare, 2011; Gheorghe & Vasile, 2012; Hossain, 2008; Jaffri et al., 2012; Kaur et al., 2012; Nguku, 2013; Kwalingana & Nkuna, 2009; Siddiqui & Ahmad, 2013), panel data analysis for groups of the economies [Rehman & Bristy, 2015 for SAARC countries and Sahoo et al., 2016 for Asian economies; Strauss, 2015 and Strauss, 2017 for South African countries] but none of the studies has attempted the panel of East Asian economies. As mentioned earlier, East Asia is the region having largest segment of the inflow of global FDI. The current study will focus on East Asia, which makes it distinguished from the existing literature. It will be an addition to the literature in the respective area. In the existing literature the studies have utilized various techniques like descriptive analysis [Gheorghe & Vasile, 2012; Hossain, 2008; Jayakumar et al., 2014], simple regression [Ehimare, 2011; Nguku, 2013], cointegration and causality analysis [Goswami, 2012; Kaur, 2012; Kwalingana & Nkuna, 2009; Liu et al., 2001; Seabra & Flach 2005; Tabassum et al., 2012; Yousaf et al., 2008; Zhang, 2005], Autogressive Distributed Lag (ARDL) model [Ali & Shaheen, Jaffri et al., 2012] and Fixed Effect (FE)

and Random Effect (RE) models [Abual Foul & Soliman, 2008; Goh et al., 2013; Majeed & Ahmad, 2007]. We will use the system GMM technique to examine the influence of inward FDI on current account balance.

After the review of literature on the topic we identified a contextual gap and methodological gap, as no existing study addressed the panel of East Asian economies using the system GMM technique. East Asia is the largest host country of FDI therefore this study contributes to existing body of knowledge by exploring the potential implication of inward FDI on CAB and international trade.

The rest of the paper proceeds as section 2 unpacks the theoretical arguments to formulate the functional form of the model, section 3 describes the methodological aspects, section 4 is about results and discussion and the section 5 provides the final remarks and policy suggestions.

2. Theoretical Framework

Developing economies often face the saving investment gap therefore FDI is considered as source of external financing for these economies. There are two kinds of FDI. First one is the market seeking FDI and the second is resource/efficiency seeking FDI. The objective of market seeking FDI is to capture the market by increasing the total share of supply in the world market. Flow of market seeking FDI exits from developed to developed countries. On the other hand the objective of resource/efficiency seeking FDI is to get the benefits of low cost of production by exploring the cheap factors of productions in the host countries. Its flow is normally from developed to capital poor countries of developing and less developed world.

The inward FDI may affect host economy in a variety of ways depending upon the nature and type of FDI and the characteristics of the host economy. FDI may improve the current account balance as well as it may weaken the current account balance. One of the important outcomes of FDI may be its impact on international trade and the current account balance of the host economy. The FDI may have a complementary relationship with trade and even it may have the substitutionary impact on trade.

2.1 Substitutionary impact of FDI on International Trade

Market seeking FDI intends to capture the market share of host economy, so the foreign investors produce and sell in host economies. Such type of FDI may have substitutionary impact on trade (Markusen, 1984; Markusen & Venables, 1995).

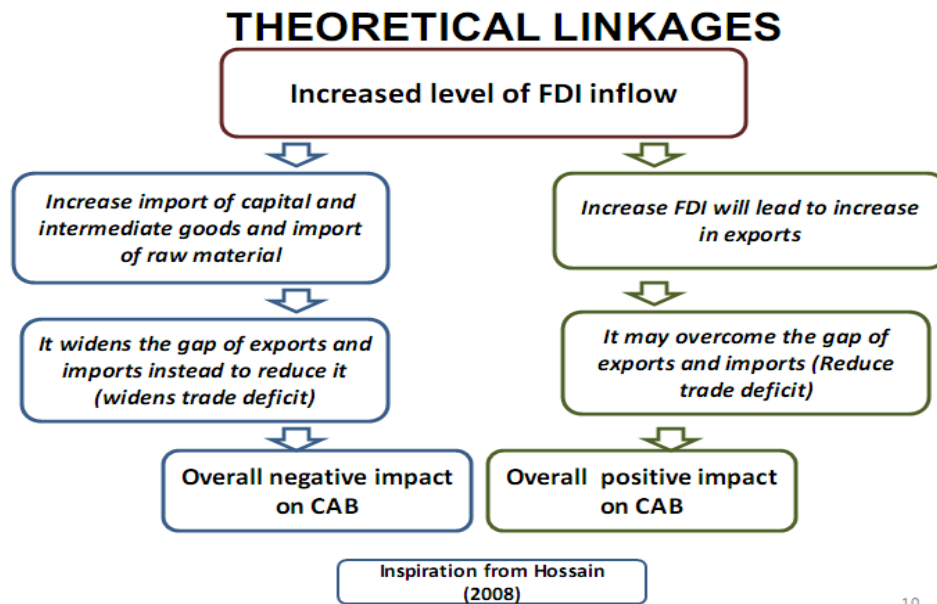
2.2 Complementary impact of FDI on International Trade

Efficiency/resource seeking FDI intends to explore the cheap resource of host economy and produce the output at low cost. Exploring cheap inputs of host economy, Multinational Corporation (MNCs) produce bulk of the output to sell in the host economy as well as to export to other economies. Foreign investors aim to export larger share of their output, so FDI has complementary relationship with international trade. It increases the total output of the host economy and eventually exports also increase (Helpman, 1984; Helpman & Krugman, 1985). Moreover MNCs can provide their local affiliates a better access to high valued developed markets, which may increase the exports of local investors as well (Gerlach & Lui, 2010). FDI companies are more inclined to import

capital and intermediate goods and services, and sometimes raw material and managerial skills which are not readily available in the host country, hence they can accumulate the imports of host economy (Hossain, 2008).

Gray (1998) also claimed that market seeking FDI could replace the international trade whereas efficiency seeking FDI can increase international trade. Furthermore, without high value of expected profits and dividends FDI would not take place. Empirical studies confirmed that MNCs always have high profits in investing country than the profits in country of their origin (Altzinger et al., 2003; Havrylchuk & Jurzyk, 2005; Önanar, 2006).

Since resource seeking FDI can increase the imports and exports of host economy, the overall effect of FDI inflows could either be positive or negative on current account balance, depending on the relative elasticities of imports and exports with respect to FDI. The following flow chart indicates the channels through which FDI inflows can influence the current account balance.



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Figure 1: Theoretical Framework

Based on the theoretical linkages, the function form of the model is specifies as:

Current Account Balance

$$= f(\text{FDI inflow}, \text{GDP}, \text{Real Effective Exchange Rate}, \text{Trade Openness}, \text{Terms of Trade})$$

$$\text{Exports} = f(\text{FDI Inflows}_{t-1}, \text{FDI Inflows}, \text{GDP}, \text{REER}, \text{TO}, \text{TOT})$$

$$\text{Imports} = f(\text{FDI Inflows}_{t-1}, \text{FDI Inflows}, \text{GDP}, \text{REER}, \text{TO}, \text{TOT})$$

This model specification is also used by Hossain (2008) Kwalingana and Nkuna and (2009), and Sahoo et al. (2016).

3. Methodology

3.1 Model Specification

This study is intended to explore the effect of inward FDI on current account balance and components of trade account. For empirical investigation of hypothesis the models used can be specified as follows:

$$CAB = \beta_0 + \beta_1 FDI_{it} + \beta_2 GDP_{it} + \beta_3 REER_{it} + \beta_4 OPENESS_{it} + \beta_5 TOT_{it} + \mu \quad (1)$$

$$EXPORTS = \alpha_0 + \alpha_1 FDI_{it} + \alpha_2 FDI_{it-1} + \alpha_3 GDP_{it} + \alpha_4 REER_{it} + \alpha_5 OPENESS_{it} + \alpha_6 TOT_{it} + \mu \quad (2)$$

$$IMPORTS = \gamma_0 + \gamma_1 FDI_{it} + \gamma_2 FDI_{it-1} + \gamma_3 GDP_{it} + \gamma_4 REER_{it} + \gamma_5 OPENESS_{it} + \gamma_6 TOT_{it} + \mu \quad (3)$$

Where

FDI = Foreign Direct Investment Inflows (measured in million US \$)

Openness = Trade Openness measured as (Exports + Imports/ GDP)

CAB = Current Account Balance excluding remittances (measured in million US \$)

[Remittance subtracted from current account balance then the series becomes the current account deficit. So in this study current account deficit is the dependent variable for first mode]

REER = Real Effective Exchange Rate

ToT = Terms of Trade

Exports = Volume of Total Exports (measured in million US \$)

Imports = Volume of Total Imports (measured in million US \$)

FDI_{t-1} = Lag value of Foreign Direct Investment Inflows (measured in million US \$)

GDP: Gross Domestic Product (measured in million US \$)

μ = Error term

3.2 Data Set

Panel data is used for the selected East Asian Developing Economies covering the time span of 2000 to 2016. It is taken from the database of United Nations Conference on Trade and Development (UNCTAD, 2015). According to this database seven countries are included in East Asian Developing Economies. In 2016 five of them were the main FDI recipients as China 52%, Hong Kong 39%, Republic of Korea 6.40%, Macao 2.04% and Magnolia 0.56% received FDI inflow of the total inward FDI to this region, so the panel includes these five countries. The data on other variables is obtained from the data base of UNCTAD (2016) and World Development Indicators (WDI) by World Bank.

3.3 Estimation Technique

A single equation estimation technique is used to find the impact of FDI on dependent variables. Ordinary Least Square (OLS) technique is appropriate if there is no issue of endogeneity and heteroscedasticity in the model. If the model is free from endogeneity problem but having the problem of heteroscedasticity than Generalized Least Square (GLS) method is suggested as estimation technique. On the other hand, if the model has an endogeneity problem but not the heteroscedasticity then Two-Stage Least Square Method (TSLS) can give unbiased results. However, if the model has both the problems (heteroscedasticity and endogeneity) than the unbiased result can be obtained by using the Generalized Method of Moment (GMM) technique. The existence of a lagged value of dependent variable composed with the additional regressors leads the issue of endogeneity which desires to be wisely addressed. Other possible reasons for endogeneity are the omitted variables and specification error. Generalized Method of Moment (GMM) is considered the most appropriate technique.

Roodman (2009) recommended two estimators to handle the issue of endogeneity. The first is the Difference Generalized Method of Moments which transmutes the model by using the first difference to reduce the Fixed Effects. Blundell and Bond (1998) and Arellano and Bond (1991) suggested additional model termed System Generalized Method of Moments (GMM) to deal with endogeneity problem. System GMM is settled by Arellano and Bover (1995) and Blundell and Bond (1998). It is called a system because it uses the system of the equations as taking variables in their levels and first difference as well.

For the current study prior to estimation diagnostic tests are used to specify the estimation technique. The problems of endogeneity, heteroscedasticity and autocorrelation are found in the data set. Therefore the system GMM technique is considered better than other panel data techniques that can better handle the problem of endogeneity by taking appropriate instruments. Studies with the System GMM method have found it to achieve better results in dynamic panel data models than the other techniques.

Furthermore, AR (2) test is used to check the autocorrelation problem and the Sargan test is used to check the validity of the instruments. Equations for system GMM can be specified for the models used in this study.

$$\Delta CAB_{it} = \beta_1 \Delta CAB_{it-1} + \beta_2 \Delta (FDI_{it}) + \beta_3 \Delta (GDP_{it}) + \beta_4 \Delta (REER_{it}) + \beta_5 \Delta (OPENESS_{it}) + \beta_6 \Delta (TOT_{it}) + \Delta v_{it} \quad (4)$$

$$CAB_{it} = \beta_0 + \beta_1 CAB_{it-1} + \beta_2 (FDI_{it}) + \beta_3 (GDP_{it}) + \beta_4 (REER_{it}) + \beta_5 (OPENESS_{it}) + \beta_6 (TOT_{it}) + \varepsilon_{it} \quad (5)$$

These are the equations for the first model. Equations for the other two models also can be specified on the same pattern.

4. Results and Discussion

Table 1 shows summary statistics of the data for panel of the countries. Although the panel is comprised of five East Asian economies, the summary statistics shows significant variation in the data. FDI inflow has the lowest value of -.015883 million US\$ (In UNCTAD data base value of inward FDI to Macao is -0.79 million US \$, negative value indicates disinvestment) which belongs to Macao in 2000. Hong Kong has the

highest value of FDI inflows that is 1743 million US dollar in 2015. Lowest value of real GDP is 56.07708 million US dollars that is for Mongolia in 2000. China has the highest value of real GDP in the panel that is 64815.68 million US dollars for the year 2015. However, China has the minimum value of trade openness in 2001 and Hong Kong has the largest value of trade openness in 2013 in the panel.

Table 1: Descriptive Statistics

Variable	Mean	SD	Minimum	Maximum
FDI inflow	295.8951	363.6711	-.015883	1743.529
GDP	9692.88	15754.84	56.07708	64815.68
TO	160.9931	118.3183	43.32837	442.7559
REER	104.6979	15.10312	74.85316	136.9948
CAB-Deficit	42137390.8 5	48381987.25	510478.983 2	173909670.2
Log of Exports	12.50632	7.130064	3.199627	22.59706
Log of Imports	12.36829	6.949085	3.463801	22.59434
TOT	1.027771	.2708001	.7462808	3.079458

N=85

Lowest value of real effective exchange rate (REER) is 74.85316 for South Korea for the year 2009. China has highest value of REER in 2014. Mongolia has lowest current account deficit in 2000, on the contrary China has largest current account deficit in 2004. Mongolia has lowest value of log of exports in 2000 and lowest value of log of imports in 2001, while the Hong Kong has highest value of log of exports and log of imports in 2013. Again Mongolia has lowest value of terms of trade in 2012 and China has highest value of terms of trade in 2016.

In order to examine the effect of FDI inflows on current account deficit the first model expressed in equation 1 is estimated by using the system GMM technique. The results are reported in table 02.

The coefficient of the lagged value of current account deficit is positive which indicates that previous level of deficit accumulates CAB deficit further. The coefficient of FDI inflows is negative and significant, indicating FDI inflows can reduce the current account deficit of the host economy. It implies inward FDI can improve the current account balance. In the existing literature, there is a mix of evidence about the impact of inward FDI on CAB.

Table 2: Dependent variable CAB-Deficit (System Dynamic Panel Estimation)

Model 01: Arellano and Bond Estimates of [CAB-Deficit and FDI]						
Cab-deficit	Coefficient	Standard error	Z	P > z	[95% conf.	Interval]
<i>CAB Deficit</i> _{t-1}	.6838003	.1269126	5.39	0.000	.4350562	.9325444
FDI	-245781.8	63496.36	-3.87	0.000	-370232.4	-121331.2
GDP	8144.957	1827.331	4.46	0.000	4563.454	11726.46
REER	5.65e+07	5.29e+07	1.07	0.285	-4.71 e+07	1.60e+08
TO	-5.74e+07	3.28e+07	-1.75	0.081	-1.22 e+08	6975479
ToT	-4.42e+09	5.79e+07	-0.76	0.445	-1.58 e+10	6.93e+09
Cons	3.06e+09	9.90 e+09	0.31	0.757	-1.63e+10	2.25e+10
Wald Chi (Prob > chi2)	321.35 (0.0000)					
AR(2) P-value	0.250					
Sargan P-value	1.000					

The result of this study is consistent with the results of Ehmiare (2011), Hossain (2008), Kaur et al. (2012) and Siddiqui and Ahmad (2013). They explored positive influence of inward FDI on current account balance. They proved FDI can increase the volume of international trade and eventually improve the current account balance of the host economy. However, it is in contrast with the results of Jaffri et al. (2012), Rehman and Bristy (2015), Sahoo et al. (2016) and Gheorghe and Vasile (2012) as they explored adverse effect of inward FDI on current account balance of the host economies. Rehman and Bristy (2015) explored FDI can worsen the CAB position of SAARC countries and Sahoo et al. (2016) identified the same type of results for the panel of Asian economies. Moreover this result is also dissimilar to the result of Ali and Shaheen (2013), Seabra and Flach (2005), Strauss (2015) and Strauss (2017), since they have found that inward FDI can deteriorate the current account balance by increasing net income outflows.

The results explain that GDP can intensify the deficit of CAB and worsen the current account balance. Calderón et al. (2002) proved that an increase in per capita GDP can accumulate the current account deficit of the developing economies. Many other studies [Jayakumar et al., 2014; Goh et al., 2013; Tabassum et al., 2012; Xiao, 2009; Yousaf et al., 2008; Abual Foul & Soliman, 2008; Majeed & Ahmad, 2007] have also proved that GDP can increase the imports of the country, therefore can deteriorate the position of current account balance of the economy.

Real effective exchange rate (REER) coefficient is positive but insignificant. The positive sign of REER indicates that increase in real effective exchange rate will increase the trade deficit. But the coefficient is insignificant indicating that exchange rate fluctuations

cannot significantly explain the variation in current account deficit for the sample countries.

The results have shown that trade openness decreases the CAB deficit. It explains that trade openness improve the current account balance which happens by increasing exports and more capital inflows. Kwalingana and Nkuna (2009) also confirmed that trade openness can improve the CAB. The Terms of Trade has shown no significant effect indicating that it is not a vital determinant of CAB deficit for the panel.

Table 3: Dependent variable Log (Exports) (System Dynamic Panel Estimation)

Model 02: Arellano And Bond Estimates Of [Exports And FDI]						
Log Of Exports	Coefficient	Standard Error	Z	P > Z	[95% Conf.	Interval]
Log Exports _{t-1}	.4931945	.054657	9.02	0.000	.3860688	.6003202
Log FDI	.1527812	.0260693	5.86	0.000	.1016863	.2038761
Log FDI _{t-1}	-0.710252	.0313248	-2.27	0.023	-.1324206	-.0096298
Log GDP	.4718659	.0547534	8.62	0.000	.3645513	.5791805
REER	.0070161	.0016013	4.38	0.000	.0038776	.0101547
To	.0101733	.0012576	8.09	0.000	.0077084	.0126382
Tot	.7741216	.1419302	5.45	0.000	.4959435	1.0523
Cons	-3.045088	.4192733	-7.26	0.000	-3.866849	-2.223328
Wald Chi (Prob > Chi2)	10930.04 (0.0000)					

Table 3 reported the results of the second model, estimating the influence of FDI inflows on one of the components of trade account (i-e) exports.

Results reveal that lagged value of exports is positive and significant indicating previous level of exports can enhance the current level of exports. FDI has positive and significant effect on exports. The magnitude of coefficient of FDI indicates that 1% increase in inward FDI can increase the exports of FDI host country by **0.153%**. Positive association between inward FDI and exports of the host economy also explored by many studies (Abual Foul & Soliman, 2008; Ahmad et al., 2003; Goh et al., 2013; Goswami & Saikia, 2012; Hossain, 2008; Jayakumar et al., 2014; Liu et al., 2001; Liu et al., 2002; Majeed & Ahmad, 2007; Popovici & Calin, 2017; Tabassum et al., 2012; Xiao, 2009; Yousaf et al., 2008; Zhang, 2005). Abual Foul and Soliman (2008) claimed that inward FDI can increase the exports of Middle Eastern and North African countries, whereas Popovici and Calin (2017) explored FDI can increase the exports of European states. All other explanatory variables (GDP, TO and ToT) also have their expected signs and explain significant variation in dependent variable (exports).

Impact of Gross Domestic Product (GDP) on exports is positive and significant indicating GDP can enhance exports. The results are consistent with the findings of the Abual Foul and Soliman (2008); they proved that GDP as proxy for domestic output can increase the exports. Real effective exchange rate (REER) has unexpected positive sign. Trade openness (To) coefficient is also positive and significant which means Trade openness can increase the exports. Result is consistent with the result of Majeed and Ahmad (2007), they also indicated positive impact of openness on exports. The coefficient of Terms of Trade (ToT) is positive and significant, indicating increase in terms of trade index can increase the exports of the country.

Results of the third model are stated in table 4. The impact of FDI inflows is analyzed for the second component of trade account (i-e) imports. The lagged value of imports has positive and significant impact indicating that the previous level of imports can boost the current value of imports. The coefficient of inward FDI is positive and significant. A positive sign of inward FDI indicates that the inflow of FDI can increase the imports of the recipient country. Binary log form of the model is used for empirical investigation; so the FDI coefficient represents the elasticity of imports with respect to FDI.

Table 4: Dependent variable Log (Imports) (System Dynamic Panel Estimation)

Model 04: Arellano And Bond Estimates Of [Imports And FDI]						
Log of Imports	Coefficient	Standard Error	Z	P > Z	[95% Conf.	Interval]
Log imports _{t-1}	.4658039	.0559193	8.33	0.000	.356204	.5754038
Log FDI	.0717795	.0311401	2.31	0.021	.0107461	.1328129
Log FDI _{t-1}	.0120383	.0375982	0.32	0.749	-.0616528	.0857295
Log GDP	.4897198	.0527406	9.29	0.000	.3863501	.5930895
REER	.0095886	.0016448	5.83	0.000	.0063648	.0128123
To	.0122081	.001278	9.55	0.000	.0097032	.014713
Tot	.2345303	.1450077	1.62	0.106	-.0496795	.5187402
Cons	-.873346	.3890885	-7.38	0.000	-3.635946	-2.110747
Wald Chi (Prob > Chi2)	8089.76 (0.0000)					

The implication of positive influence of inward FDI on imports is that, the FDI companies have high propensity to import capital and intermediate goods and services, raw material and managerial skills that may not immediately available in the FDI destination country (Hossain, 2008). The coefficient 0.072 indicates the imports elasticity with respect to FDI. Positive impact of inward FDI on imports of the host economy also explored by Goh et al. (2013), Hossain (2008), Jayakumar et al. (2014), Tabassum et al. (2012), Xiao (2009), Yousaf et al. (2008). GDP can increase the imports of a country. The result is consistent with the macroeconomic theory as imports become the positive function of income, as income increase consumption (imported good) is also increases. Real Effective Exchange Rate (REER) has positive and significant sign. The positive sign of REER indicates that increase in REER can increase the imports of the country.

Appreciation/increase of REER means appreciation of the domestic currency which can increase the purchasing power and can enhance the imports of the country. The positive sign of REER is align with the results of Tabassum et al. (2012), they proved REER has positive impact on import volume. Trade Openness (TO) also can enhance the imports of the country, positive and significant coefficient of imports indicates more open economies incline to import more goods and services. The coefficient of Terms of Trade (ToT) is insignificant.

Results cited above show that FDI inflows can increase the imports and exports of the FDI host economy. Consequently the inward FDI either has positive effect on trade balance or it can contribute negatively to trade balance of a country, depending on the relative magnitude of the two forces. For the present study elasticity of exports to FDI is (0.152) and the elasticity of imports to FDI is (0.071). Coefficient of elasticity indicates stronger effect of FDI inflows on exports ($0.152 > 0.071$) relative to imports of the host economy. Therefore, overall influence of inward FDI on current account balance is positive as FDI decreases the current account deficit for the panel of East Asian economies.

After going through the results of the present study we can conclude this study endorses the complementary impact of inward FDI on international trade, hence theoretical contributes to the theory of complementary impact of FDI on international trade.

5. Conclusion

From the findings of the study it is concluded that FDI inflows have positive impact on current account balance which means that inward FDI can decrease the current account deficit. Furthermore, FDI inflows have positive impact on host country's exports and imports. But overall positive impact on current account balance shows that inward FDI encourage exports more than the imports of the host country in case of East Asian Economies. All the results are statistically significant.

On the basis of the results of this study, it is suggested that the countries should have more inward FDI as an external source of capital accumulation for economic development and to fill the saving investment gap of the host country as FDI improves the current account balance of the recipient country by improving its exports.

This study is confined to investigate the impact of FDI inflows on CAB and trade components. However, the income account of CAB also have a significant role to determine the overall position of CAB. Due to data constraints study cannot investigate the effect of inward FDI on income account, therefore it can be the future research avenues in this domain.

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