Current Account Balance in Emerging Asia

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Abstract
The current account balance is an important indicator which reveals information on a country’s economic situation such as investments, capital flows, and indebtedness. The main purpose of this study is to examine the current account balance conditions in emerging Asian countries. In this respect, the long-run and causality relationship between current account balance, economic growth, government expenditure, real interest rates, and foreign direct investment was examined. The panel data analysis was applied using the data dated 1986 to 2015. Our results revealed a causal effect from economic growth and government expenditure to current account balance mainly dependent on saving tendency.

Key-words: Asia, Current Account Balance, Economic growth, Emerging Asia, FDI, Panel Data Cointegration Analysis, Real Interest rates

JEL Codes: C23, C33, E13, F32, F43, F47, P52

INTRODUCTION
Current account balance indicates the differences between income and expenditure. Basically, current account deficits imply that a country spends more than producing while current account surpluses reflect the condition that a country produces more than spending (Park and Shin, 2009). If the current account maintained to be deficits at high levels, it leads to problems in an economy such as depreciation of the domestic currency and high domestic interest rate. Increasing of

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interest rate tends to attract capital inflow and this leads to an increase in imports and external debt of that country (Sahoo et al., 2016). Current account deficits indicate the bad health of an economy because that deficit shifts today’s debt to the next generations. Also, current account surpluses are also not healthy for a country’s economy as this phenomenon will lead to inefficient financial intermediation and low investment conditions. Shortly, the continuous process of both deficits and surpluses of the current account is undesirable for a country’s economy (Hassan et al., 2015). Thereby, the balance of the current account is an important goal for each country.

The main purpose of this study is to examine the current account balance conditions in emerging Asian countries. For this purpose, the long-run relationship and the causal relationship between the current account balance, economic growth, government expenditure, real interest rate, and foreign direct investment are examined. The countries included are India, Indonesia, Malaysia, Philippines, and Thailand. The panel data analysis was applied and the data took the period of 1986-2015. There are four main sections in the study. Firstly, the current account imbalance was discussed briefly in the global context. Secondly, a review of the literature based on Asian and emerging countries was made. The next section explains the data and methodology and finally, the fourth section concludes the findings.

I. VIEW ON CURRENT ACCOUNT IMBALANCE

Global current account imbalance widened in recent years between developed countries and emerging countries. The gap is wider due to the increment of the current account deficits in the US and Eurozone after 2008. On the other hand, China, South Korea, Malaysia, Indonesia, Singapore, and Thailand generate give rise to current account surpluses on an average of 6.4% of GDP in the period of 2000-2009. Common traits of these countries are high growth rates, various domestic investment opportunities and the outflow of their savings to other countries (Das, 2016). The global imbalances are mostly due to the imperfect arrangements on macroeconomic policies. This leads to excessive consumption in the US and developed countries and also the saving gluts in emerging Asian countries (Prasad, 2011).

The standard view on the global current account imbalances is that the developing countries have high labor/capital ratios so that the marginal productivities of capital became higher in these countries. For this reason, advanced countries are exporting capital to the developing countries. However, if income levels of developing countries increased, then they might become a borrower and current account deficits will occur in developing countries (Gruber and Kamin, 2005). The emerging markets aggregated foreign exchange reserves to enhance financial markets. Advanced financial markets could be equated with the negative
effects of financial crisis and trade shocks. Furthermore, if emerging countries have not stimulated sufficient credibility, then these countries cannot be integrated into the global financial markets. Emerging countries improve their credibility by accumulating foreign assets and foreign exchange reserves (Herrmann and Winkler, 2008). Fisher (2005, 79) argued that the current account dynamics depends on the speed of adjustment of the production and consumption process. Initial current account deficits generated by the speed of adjustment of production-side and current account surpluses are formed by the speed of adjustment from the consumption-side both in the short run and the long run. He concluded that the current account balance reveals “non-monotonic paths”. Savings and investment could have an effect on a current account balance of countries’. Generally, excessive investment conditions have to lead to economic growth. However, in some cases investment projects have not lead to economic growth when less productive political decisions taken by policymakers. For instance, relative price deterioration of commodities could give wrong investment decisions. In this process making investments in nontrade goods industry could be affected negatively by countries’ export and current account balance (Milesi –Ferretti and Razin).

During the 1980’s East Asian countries generally experienced large current account imbalances due to the increased exports. Variation of product composition of trade could reduce the negative effects of external shocks. Fluctuation in commodity prices may affect the trade patterns on both export and import structure. Consequently, economic vulnerabilities may weaken the control of sustaining current account deficits. It is claimed that current account imbalances cannot cause external economic crises if an economy is supported by its export base implications (Milesi –Ferretti and Razin).

Before the 1997-98 Asian financial crises, Asian countries were associated with current account deficits. However, after the financial crises these countries current account balance shifted to the surpluses situation. The main reason for this shifting process was related to the increase in investment rates and the rising of savings rates (Park and Shin, 2009). After the financial crisis in the late 90’s, Asian emerging countries implemented new strategies on international capital flows. The main transition is East Asian countries have become a net exporter of financial capital. In particular, China, Korea, and Thailand increase their foreign-exchange reserves. Larger foreign-exchange reserves induce current account surpluses in these countries. The government in East Asia acted as financial intermediaries by driving domestic saving into international capital markets, mobilizing domestic saving and using savings for buying US Treasury securities (Bernanke, 2005). Trade openness ratio of Asian countries is averagely over 90%, reflecting that these countries are highly integrated into international trade. In Asian countries, trade openness rise in the period of 2000-2009. Since the early 2000s, the savings and investment conditions of Asian countries have improved and, in this lifts up the level of savings higher than investment and generates current account surpluses in Asian countries.
In this respect, the global imbalances could be explained to be the financing of Asian countries on the current account deficits of advanced countries and the USA (Prasad, 2011). It could be said that the negative effects of Asian crisis motivate Asians to save more for precautionary sense. Therefore, limiting of price distortions, sound macroeconomic implications, improving institutions, upgrading human capital, regulations on the open economy and technological developments are the fundamentals of this economic transformation of East Asian countries (Park and Shin, 2009).

II. LITERATURE REVIEW

Chinn and Ito (2008) investigated the origins of global current account imbalances by using comprehensive data. The data include the degree of financial openness, savings, and legal development indicators. They focused the study on the United States and emerging East Asian countries. The study found that increasing the budget balance induces the rising of the current account balance. The financial factors on the current account have larger impacts on industrial countries than less developed countries. Financial and legal development conditions are influential only in the industrial countries. In the emerging East Asian countries, savings is not the only determinant for the economy, because these countries experienced a deficit in investment. However, the United States experienced saving deficits which are partly driven by public sector dissaving.

Kunieda et al. (2016) compared the effects of domestic financial frictions on current account dynamics in six Asian countries by considering the collateral constraints into the intertemporal current account. The study focused on pre and post financial crisis. Korea, Philippines, Thailand, and Malaysia exhibited similar conditions in current account dynamics before and after the Asian financial crisis. They concluded that collateral constraints have a significant effect on the current account before the financial crisis but no effect after the financial crisis in these four countries.

Hassan et. al. (2015) found that the current account balance is sustainable in four ASEAN countries over the period of 1970-2013 and this result is based on the finding of co-integration between exports and imports.

Gosse and Serranito (2014) examined the current account dynamics of OECD countries. They reported that financial market development and fiscal balance are precious factors on professing current account variation in the long run, however, in the short run, current account balance formed basically through oil price, productivity, and competitiveness in OECD countries.

More recently, Gervais et. al. (2016) analyzed the current account dynamics in terms of real exchange rate adjustment and exchange rate regime in emerging
countries over the period of 1975-2008. The results revealed that the adjustment of the real exchange rate helps to reduce the current account imbalances. The current account balance is formed through the fixed exchange rate regime. Real exchange rate movements provide adjustment of the current account balance in the long-run.

Belke and Schnabl (2013) divided the global imbalances into four generation phases. They evaluated the second generation of global imbalances that Japan, China and some of the East Asian countries are financing the U.S. current account deficit. The main transformation was formed in terms of implementing economic liberalization and export-oriented growth policies in East Asian countries.

Behera (2016) investigated the current account dynamics of ten newly industrialized countries (NICs) for the period of 1980-2012. The study included countries of China, India, Indonesia, Malaysia, Philippines, and Thailand. The long-run equilibrium relationship was found between domestic saving, investment, and current account in NICs. The degree of openness of the capital account is related to the degree of capital mobility. The countries which have a higher degree of capital mobility are also having the low speed to achieve the long-run equilibrium level.

Chen and Li (2014) conducted a comparative study between Asia and the U.S. on studying the impacts of the financial crises-based exchange rate, real interest rate and personal consumption expenditure on Asian stock indices and current accounts. The countries also ranked based on the importance of consumption expenditure on current account. The results revealed that the real interest rate has an equalizer effect on current account only in Malaysia, but with unstable effect on other countries. Personal consumption expenditure is a precious variable due to its destabilizing effect on a country’s international trade.

Yang (2011) investigated the determinants of the current account balance in eight emerging Asian countries. The selected explanatory variables include initial stock of net foreign assets, level of trade openness, real exchange rate and relative income. The co-integration test, VAR and VECM models were applied for the data dated 1980-2009. The results showed that initial net foreign asset positions and the degree of trade openness have a significant effect on current account balances in the long run. There is a negative relationship between real effective exchange rate fluctuations and current account balance in the long run.

Current account surplus of Asian countries was examined in the respect of savings- investment gap by Felipe et al. (2006). They focused on the reasons for the surplus whether it is a result of an increase in saving rates or a decrease in investment rates. Finally, they found that the current account surpluses of Asian countries are highly related to a decrease in investment conditions after the Asian financial crisis. The economic growth in Asian countries was led by export. During the crisis, domestic credit condition dropped. The generation of excess capacity and decreasing of profit rates led to the decline of investments in Asia countries.
III. DATA AND METHODOLOGY

In this study, all data are obtained from the World Bank Database, World Development Indicators. The current account balance is in the percentage of GDP (CAB) and is used as the dependent variable. The independent variables consist of GDP growth rate (GRW), foreign direct investment as a percentage of GDP; net inflows (FDI), real interest rate (RIR) and general government final consumption expenditure growth (GOV). The data are denoted in annually format and collected for five emerging Asian countries (India, Indonesia, Malaysia, Philippines, and Thailand) covering the period of 1986-2015.

Previous studies showed different results on the effects of economic growth on savings and consumption. Higher economic growth may lead to higher income expectation, hence this tends to increase the worker consumption and demand for imported goods. Therefore, it can be expected that GDP growth has a negative effect on current account (Calderon et al., 1999; Zorzi et al., 2009; Bollano and Ibrahimaj, 2015; Gehringer, 2015). On the other hand, the higher saving rate in Asian countries indicated that the increase in income does not lift up the consumption. Consequently, in the Asian countries, it can be expected that economic growth and higher income lead to saving motivation (Faruqee and Husain, 1998; Loayza et. al., 2000; Thanoon and Baharumshah, 2005; Bhandari et. al., 2007; Arıç, 2015), and it can be said that these countries experienced a positive effect of current account balance.

As stated in the economic literature, foreign direct investments have positive effects on the host countries' current account by bringing technology and know-how, facilitating integration into the global economy and increase the competitiveness of companies (Mencinger, 2008). However, the foreign direct investments could affect current account balance negatively through the profit transfers to the investor country from the host country by foreign firms.

Theoretically, the link between government expenditure and current account balance mostly determined by the private sector behavior against the changes in government expenditures (Tanner, 1994). According to Ricardian equivalence, if the budget deficit increases, the private consumption will decline and the private savings will increase. All these processes moderate the fluctuations of the current account balance (Batdelger and Kandil, 2012). However, when the government expenditure on final goods is related to higher imports, government expenditure affects negatively current account balance (Cavallo, 2005). Additionally, if the increase in government consumption expenditure generates a fiscal deficit, this situation produces a disturbance in the current account balance (Song, 1997).

According to the intertemporal theory, interest rate changes may affect the current account through the instrument of saving behavior (Bergin and Sheffrin, 2000). Anoruo and Elike (2008) found that interest rate has a positive effect on
current account in India, Korea, and the Philippines, however with a negative effect in Thailand. Herrmann and Jochem (2005) investigated the macroeconomic determinants on the current account deficit in the Central and East European Union members, and they found a positive sign from real interest rate to the current account balance. Hence, the model was established by the arguments of economic literature as Equation (1),

\[ \text{CAB}_i = \beta_0 + \beta_1 \text{GRW}_i + \beta_2 \text{GOV}_i + \beta_3 \text{FDI}_i + \beta_4 \text{RIR}_i + u_i \quad (1) \]

In this study, we used a balanced panel data set in the panel data analysis. Balanced panel data implies no missing data. Panel dataset includes 5 horizontal section units. \( i \) symbolizes country and \( t \) symbolizes time; \( i=1, 2, 3, 4, 5 \) (5 countries) and \( t=1986-2015 \) (30 years). The total number of observations in the data set \((i \times t = 150)\) is 150. Initially, the cross-section dependence and homogeneity test were used to determine the further analysis process. After then, unit root test, co-integration test, and causality test were implemented respectively.

**Cross-Sectional Dependency and Homogeneity**

It is important to take into account cross-section dependence to obtain sound estimation results. Cross-sectional dependency could be described as individuals forming panels are related to error terms in the panel data model. If the individuals are forming in the panel and they get affected by a shock, other individuals will be affected by this shock. The testing on dependency is based on Equation (2). The null hypotheses assume that there is no cross-sectional dependency.

\[ y_{it} = \alpha_i + \beta_i x_{it} + \varepsilon_{it} \quad (2) \]

\[ \text{Cov}(\varepsilon_{it}, \varepsilon_{ij}) \neq 0 \]

The LM test statistics;

\[ LM = T \sum_{i=1}^{N-1} \sum_{j=i+1}^{N} \hat{p}_{ij}^2 \sim \chi^2_{N(N-1)/2} \quad (3) \]

In the Equation (3), \( \hat{p}_{ij}^2 \) asserts the sample estimate of the pair-wise correlation of the residuals from individual ordinary least squares (OLS) estimation for each \( i \). Pesaran (2004) proposed a new LM test statistics for the size distortions cases, where \( N \) is large and \( T \) is small. LM statistics modified as \( T \rightarrow \infty \) and \( N \rightarrow \infty \);
\[ CD = \sqrt{\frac{2T}{N(N-1)}} \left[ \sum_{i=1}^{N-1} \sum_{j=i+1}^{N} \hat{p}_{ij} \right] \sim N(0,1) \quad (4) \]

In this study, the cross-sectional dependency is tested by using Breusch-Pagan (1980) \( CD_{LM1} \) and Pesaran (2004) \( CD_{LM1} \) for cases where \( T>N \). \( CD_{LM} \) test also could be used if \( N>T \). Delta test (\( \Delta \)) introduced by Pesaran and Yamagata (2008) is used to determine the homogeneity. The test is based on the null hypothesis \( H_0: \beta_i = \beta \) (homogeneity)

**Cross-Sectional Augmented Dickey-Fuller (CADF) Unit Root Test**

Pesaran (2007) modified the ADF test by adding cross-section averages of lagged levels and the first difference of the individual series in the unit-root equation. Such modified ADF regression which includes the cross-sectional effect is called as CADF (see Equation (5)):

\[
\Delta y_{it} = \alpha_i + \beta_{it} + \rho \bar{y}_{i,t-1} + \theta \bar{y}_{i,t-1} + \sum_{j=0}^{p} \delta_{ij} \Delta \bar{y}_{i,t-j} + \sum_{j=1}^{p} \delta_{ij} \bar{y}_{i,t-j} + \epsilon_{it} \quad (5),
\]

where \( \bar{y}_i \) is the average of \( y \) of \( N \) observations. \( \alpha_i \) is a constant, \( \Delta \) is the differenced operator and \( \bar{y}_{t-1} \) is the value of one term delay of \( \bar{y}_t \), respectively. The null hypotheses of CADF test is:

\[ H_0 = \beta_1 = \beta_2 = \cdots = \beta_n \] (series contain unit root) \quad (6)

**LM Bootstrap Co-integration Test**

LM bootstrap cointegration test introduced by Westerlund and Edgerton (2007) resists on Lagrange multiplier test of McCoskey and Kao (1998), and it allows heteroscedasticity and serially correlated of errors, unit specific time trends and cross-sectional dependence. This test is based upon the sieve-sampling scheme, and this test has the advantage of reducing the distortions of the asymptotic test. The LM bootstrap co-integration test has the null hypothesis of co-integration for all countries. If the null hypothesis cannot be rejected, it can be assumed that there is a co-integration relationship for the countries in the panel set.

**Pairwise Dumitrescu - Hurlin Panel Causality Test**

Dumitrescu and Hurlin (2012) panel causality test permits for all coefficients to be different (heterogeneous) across cross sections: The general pair of panel Granger causality models is given by
\[ y_{i,t} = \alpha_{0,i} + \alpha_{1,i} y_{i,t-1} + \cdots + \alpha_{l,i} y_{i,t-l} + \beta_{1,i} x_{i,t-1} + \cdots + \beta_{l,i} x_{i,t-l} + \varepsilon_{i,t} \]  
\[ x_{i,t} = \alpha_{0,i} + \alpha_{1,i} x_{i,t-1} + \cdots + \alpha_{l,i} x_{i,t-l} + \beta_{1,i} y_{i,t-1} + \cdots + \beta_{l,i} y_{i,t-l} + \varepsilon_{i,t} \]  

(7)

\[ \alpha_{0,i} \neq \alpha_{0,j}, \alpha_{1,i} \neq \alpha_{1,j}, \ldots, \alpha_{m,i} \neq \alpha_{m,j}, \forall i,j \]  
\[ \beta_{1,i} \neq \beta_{1,j}, \ldots, \beta_{m,i} \neq \beta_{m,j}, \forall i,j \]  

(8)

Dumitrescu and Hurlin (2012) tests the causality for the null of the pair:

Dumitrescu and Hurlin (2012) test are used to test for the homogenous non-stationary (HNC) hypothesis in the causality relationship and heterogeneous models. This test provides two different distribution statistics. One of them shows asymptotic distribution which is used when T>N. The other is a semi-asymptotic distribution which is used when N>T.

IV RESULTS

In this section, we discuss the results using different testing approaches discussed above, taking into account the cross-sectional effect.

Table 1: Cross-Sectional Dependency and Homogeneity Tests Results

<table>
<thead>
<tr>
<th>Constant</th>
<th>CA</th>
<th>GRW</th>
<th>GOV</th>
<th>RIR</th>
<th>FDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>( CD_{lm} ) (BP,1980)</td>
<td>19.201</td>
<td>25.945</td>
<td>29.962</td>
<td>17.394</td>
<td>18.031</td>
</tr>
<tr>
<td></td>
<td>(0.038)</td>
<td>(0.004)</td>
<td>(0.001)</td>
<td>(0.066)</td>
<td>(0.054)</td>
</tr>
<tr>
<td>( CD_{lm} ) (Pesaran, 2004)</td>
<td>2.057</td>
<td>3.565</td>
<td>4.464</td>
<td>1.653</td>
<td>1.796</td>
</tr>
<tr>
<td></td>
<td>(0.020)</td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.049)</td>
<td>(0.036)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Homogeneity Tests</th>
<th>( \tilde{\Delta} )</th>
<th>( \tilde{\Delta}_{adj} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \Delta )</td>
<td>2.252</td>
<td></td>
</tr>
<tr>
<td>( \Delta_{adj} )</td>
<td>(0.012)</td>
<td></td>
</tr>
<tr>
<td>( \text{adj} )</td>
<td>(0.006)</td>
<td></td>
</tr>
</tbody>
</table>

As observed in Table 1, the results from cross-sectional dependency and homogeneity tests indicated that there exists a cross-sectional dependency between variables. In this situation, the cross-sectional augmented Dickey-Fuller (CADF) unit root test could be used for testing for the stationarity of each variable. The results of the homogeneity test showed that there is no homogeneity. These results lead to the implementation of cointegration tests that take into the effect of cross-sectional dependence and heterogeneity.
Table 2: CADF Unit Root Test Results

<table>
<thead>
<tr>
<th></th>
<th>Constant</th>
<th>Constant and Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CADF-stat</td>
<td>CADF-stat</td>
</tr>
<tr>
<td>CAB</td>
<td>-2.409b</td>
<td>-2.781c</td>
</tr>
<tr>
<td>GRW</td>
<td>-2.782a</td>
<td>-2.803c</td>
</tr>
<tr>
<td>GOV</td>
<td>-2.324c</td>
<td>-2.742c</td>
</tr>
<tr>
<td>RIR</td>
<td>-3.255a</td>
<td>-3.131a</td>
</tr>
<tr>
<td>FDI</td>
<td>-2.347b</td>
<td>-2.455</td>
</tr>
</tbody>
</table>

Notes: The number of lags selected is based on Schwarz Information Criteria up to maximum 4 lags. The critical values based on a constant model are: -2.57 (%1), -2.33 (%5) and -2.21 (%10) (Pesaran 2007, table II(b), p:280); for constant and trend model: -3.10 (%1), -2.86 (%5) and -2.73 (%10) (Pesaran 2007, table II(c), p:281). Indication: a, b and c show 1 %, 5 % and 10 % significance levels, respectively.

Table 2 summarized the results of panel unit-root test (CADF) by considering the effect of cross-sectional dependency. In all cases (constant and trend), we are able to reject the null hypothesis of unit-root at different significant levels, hence leads to the conclusion that all variables are stationary.

Table 3: LM Bootstrap Co-integration Test Results

<table>
<thead>
<tr>
<th>Tests</th>
<th>Constant</th>
<th>Constant and Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Asymptotic p-value</td>
<td>Bootstrap p-value</td>
</tr>
<tr>
<td>LM bootstrap</td>
<td>Statistic</td>
<td></td>
</tr>
<tr>
<td>(Ho:cointegration)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$LM_N^+$</td>
<td>6.804</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Notes: The null hypothesis of the tests is co-integration between CAB, GRW, GOV, RIR, FDI. A bootstrap probability ratio has a distribution repeated 1000 times.

LM bootstrap co-integration test results include either a constant term or constant and trend term. The bootstrap method can be used for both cases of cross-section dependency or no cross-sectional dependency. If there is no cross-sectional dependency, the asymptotic normal distribution p-value is valid while when a cross-sectional dependency exists, the bootstrap p-value is referred. Asymptotic p-value test is based on the null hypothesis of no co-integration while the bootstrap p-value test is based on the null hypothesis that there exists co-integration. Based on opposite null hypotheses, both tests show the same result, i.e. detect co-integration in the equation. The results imply that there is a long-run relationship between the CAB and the regressors.
Panel causality test results are shown in Table 4.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GRW does not homogeneously cause CAB</td>
<td>3.97211</td>
<td>1.65302</td>
<td>0.0983</td>
</tr>
<tr>
<td>CAB does not homogeneously cause GRW</td>
<td>2.80166</td>
<td>0.56706</td>
<td>0.5707</td>
</tr>
<tr>
<td>GOV does not homogeneously cause CAB</td>
<td>0.21004</td>
<td>-1.83747</td>
<td>0.0661</td>
</tr>
<tr>
<td>CAB does not homogeneously cause GOV</td>
<td>0.71089</td>
<td>-1.37278</td>
<td>0.1698</td>
</tr>
<tr>
<td>RIR does not homogeneously cause CAB</td>
<td>0.60844</td>
<td>-1.46783</td>
<td>0.1421</td>
</tr>
<tr>
<td>CAB does not homogeneously cause RIR</td>
<td>2.71333</td>
<td>0.48511</td>
<td>0.6276</td>
</tr>
<tr>
<td>FDI does not homogeneously cause CAB</td>
<td>2.40693</td>
<td>0.20083</td>
<td>0.8408</td>
</tr>
<tr>
<td>CAB does not homogeneously cause FDI</td>
<td>2.39544</td>
<td>0.19016</td>
<td>0.8492</td>
</tr>
<tr>
<td>GOV does not homogeneously cause GRW</td>
<td>0.42234</td>
<td>-1.64050</td>
<td>0.1009</td>
</tr>
<tr>
<td>GRW does not homogeneously cause GOV</td>
<td>4.99747</td>
<td>2.60436</td>
<td>0.0092</td>
</tr>
<tr>
<td>RIR does not homogeneously cause GRW</td>
<td>0.12253</td>
<td>-1.91866</td>
<td>0.0550</td>
</tr>
<tr>
<td>GRW does not homogeneously cause RIR</td>
<td>0.30471</td>
<td>-1.74963</td>
<td>0.0802</td>
</tr>
<tr>
<td>FDI does not homogeneously cause GRW</td>
<td>1.95876</td>
<td>-0.21499</td>
<td>0.8298</td>
</tr>
<tr>
<td>GRW does not homogeneously cause FDI</td>
<td>4.99497</td>
<td>2.60204</td>
<td>0.0093</td>
</tr>
<tr>
<td>RIR does not homogeneously cause GOV</td>
<td>10.2660</td>
<td>7.49259</td>
<td>7.E-14</td>
</tr>
<tr>
<td>GOV does not homogeneously cause RIR</td>
<td>1.45405</td>
<td>-0.68327</td>
<td>0.4944</td>
</tr>
<tr>
<td>FDI does not homogeneously cause GOV</td>
<td>6.31350</td>
<td>3.82539</td>
<td>0.0001</td>
</tr>
<tr>
<td>GOV does not homogeneously cause FDI</td>
<td>2.95488</td>
<td>0.70922</td>
<td>0.4782</td>
</tr>
<tr>
<td>FDI does not homogeneously cause RIR</td>
<td>0.28777</td>
<td>-1.76535</td>
<td>0.0775</td>
</tr>
<tr>
<td>RIR does not homogeneously cause FDI</td>
<td>1.88603</td>
<td>-0.28247</td>
<td>0.7776</td>
</tr>
</tbody>
</table>

According to the results of Dumitrescu-Hurling panel causality test, there is a unidirectional causal relationship from economic growth to current account balance; this result implies that the economic growth across the emerging Asian countries could be used to predict the value of current account balance. Similar inferences could be made for the government expenditure which causes the current account balance; economic growth causes government expenditure and foreign direct investment; foreign direct investment causes government expenditure and real
interest rates, respectively. However, the bidirectional causal relationship only found between real interest rates and economic growth.

CONCLUSION

The current account balance is an important indicator in reflecting the economic situation of a country. This study examined the current account balance in several emerging Asian countries (India, Indonesia, Malaysia, Philippines, and Thailand) for the period of 1986-2015 by using panel data methods.

The cross-sectional dependency and homogeneity tests were implemented to determine the existence of cross-sectional dependency. The testing found cross-sectional dependency and heterogeneity. Thereby the CADF unit root test was used to check for the unit root. The results revealed no unit root found in the series. This leads to the execution of co-integration and causality tests.

According to the results of co-integration tests, there exists a long-run relationship between the current account balance, economic growth, government expenditure, real interest rates, and foreign direct investments. Furthermore, the causality test specified that the economic growth causes the current account balance in emerging Asian countries. Economic growth leads to the growth of real income per capita, and this leads to the increase of savings (Faruqee and Husain, 1998; Loayza et. al., 2000; Thanoon and Baharumshah, 2005; Bhandari et. al., 2007; Arıç, 2015) and this process influences the current account balance. Another causal relationship is found between government expenditure to the current account balance. The relation between government expenditure and current account balance mostly depends on the private sector behavior (Tanner, 1994). If the budget deficit is due to the government expenditure, increasing of private savings will compensate the current account balance (Batdelger and Kandil, 2012) in the emerging Asian countries. Causality from economic growth to government expenditure and foreign direct investment could be explained as increasing of growth ease to the expense of government expenses and infrastructural investments. Enhancing the infrastructural opportunities leads to the rising of foreign direct investments to the emerging Asian countries. One of the benefits of foreign direct investment is to lower real interest rates (Hooda, 2011). Causality moving from foreign direct investment to real interest rates implies that those facilities to foreign firms investing to emerging Asian countries tend to induce lower interest rates in these countries.

The bi-directional causality between economic growth and interest rates implies to the low-interest rates and economic growth subsidies each other. Low-interest rates lead to the increase in investments and economic growth. Also, economic growth leads to the increase of output and the decrease in inflation. It can be said that low inflation rates lead to the low-interest rates in emerging Asian countries.
Finally, causality moving from economic growth and government expenditure to current account balance mainly depends on saving tendency in the emerging Asian countries. Sustainable economic growth is also important for the reliable government expenditure and interest rates levels. Summarizing all results, we can conclude that the economic policies could canalize the savings on real investments which stimulate economic growth. In this way, the balance of the current account and sound economic conditions could be maintained in emerging Asian countries.

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