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Investigating the Relationship between Current Account, Capital Account and Government Budget: Empirical Evidence from Indonesia

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The objective of this study is to examine the relationship between current account balance, the capital account and the Government budget in Indonesia based on the quarterly data starting from 2000.1 to 2017.4. This study is important to determine the same relationship between current accounts, capital accounts and government budgets that have an impact on the increase of other fiscal variables. Econometric methodology including unit root test, multivariate VAR models and test of Granger causality were applied in this field. Based on the results of the study, the cause of current account changes to changes in capital accounts and the government budget was found. State the opposite applies which changes to capital account because to change current account and government budget. Subsequent changes in the government budget also are changes to the current account and the government budget. The conclusion is important to examine the significance of the basis for consolidating more basic current account, capital account and government budget in the country of Indonesia.

Key words: *Current account, capital account, government budget, granger causality, vector autoregression (VAR) model.*

Introduction

A fiscal deficit occurs when Government increases government spending (government expenditure) or lower levels of revenue enhancements. As to the shortages that often occurs, the deficit balance of current account deficit destabilized the condition of the economic system in the long run (Edwards, Stollin, 2001). As the evidence indicates, the occurrence of a deficit current accounts Indonesia was US $24.4 billion or nearly 2.8% of the gross domestic product (GDP) in 2012.

The reason for the occurrence of a deficit deal was: first, the diminution in the surplus balance of business deal in goods (trade balance) and the increasing import of commodities. Second, the deficit balance of services; and third, the deficit on the balance of income Neto (net income), but in general the deficit, which fell out in general, services and income on the balance sheet net (Nizar, M.A, 2013). These conditions also showed a balance of deficit payments was the largest contribution to the deficit deal which was the cause of income that should be shifted to larger foreign received from overseas such as loan interest beyond the Government of the country (García-Santillán et al., 2016: Villalobos, 2018).

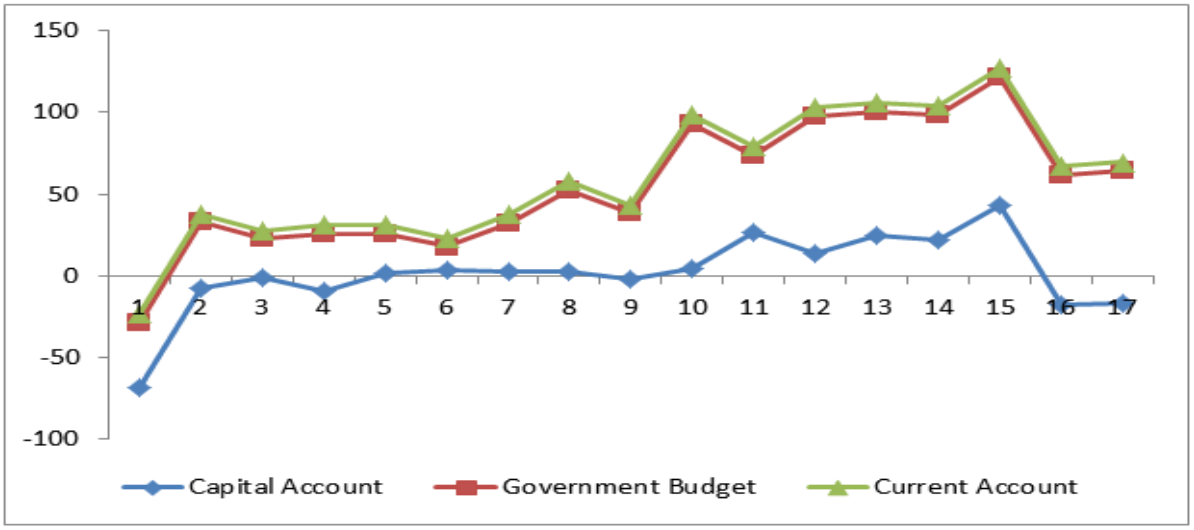
Issues related to financing the deficit and trade deficit in the long term have implications in economic development. In case of the perpetual trade deficit will have an increment in the deficit financing of the Government that will have an impact on the rest of the transaction movement as the wealth of the land is moved to the outside giving the government burden in the hereafter. Bank Indonesia data in 2004, indicates that the balance of the current account recorded the largest decline reached in Indonesia-19.5%. This decline is allegedly not followed by a diminution in the balance of capital, while the balance sheet capital experienced an increase of 119.52%. Government budget in that year also experienced a decrease until it reached-32.19%.

Decrease in capital account occurred in the year 2008 and amounted to-166.55%. The reduction in this balance sheet variable is associated with the transaction which has increased 7.6%. This meant the Government's budget in the year decreased by-19.48%. Farther from the Government budget, the greatest decline occurred in the year 2010 reached-47.07%. This decrease occured because of a reduction in the equilibrium of the transaction run which amounted to 8.7%. On the other hand, this downturn impacted to decrease the balance of capital, but the capital account experienced an increase of 448.64% in 2008.

The link between domestic conditions has led to the notion that when an international financial deficit occurs, it will cause a deficit in the domestic finance and have an impact on the government budget deficit. This linkage condition can be seen in Figure 1 below, showing the development of the current account balance, capital balance and budget of the Indonesian

government from 2000 - 2016. These three variables show their interrelationship in financial transactions both domestically and abroad in Indonesia.

Figure 1. The link between current accounts, capital accounts and government budgets



Source: Central Bureau of Statistics and Bank Indonesia, 2000-2017

The explanation provided from Figure 1 can be further explained if we look at other factors that affect each endogenous variable, then in addition to capital accounts and government budgets that affect the current account balance, for example the experienced decline in 2004 is also thought to have occurred due to the rise of the Indonesian economy, and appreciation of the exchange rate. The current account balance and government budget as for the variables that are not less important that are the focus of this study are the development of capital accounts. The development of capital accounts in Indonesia is very volatile. In 2003, the capital account experienced a sharp decline compared to other periods during the study. The decline in capital accounts this year reached -761.16 percent. This decline is not without reason, in fact, there are several factors that influence it. These factors other than the current account balance and government budget include domestic interest rate and foreign interest rate. The decline in capital account development is allegedly influenced by the diminution in the domestic interest rate and the increase in foreign interest rates. In 2003, domestic interest rates did decline from 12.93 percent to 8.31 percent. While foreign interest rates actually declined to 0.94 percent from 1.16 percent, which should have increased.

Based on the above problems, the main purpose of this study is to examine the impression of current accounts, capital accounts and government budgets using VAR analysis. Meanwhile the variance decomposition analysis will be used to see the contribution of each macroeconomic change in the current account, capital account and government budget. This study contributes significantly to the implementation of the country's fiscal basis in addition to

improving independent studies in the field of the impression of current accounts, capital accounts and government budgets. In addition, this research is important to do when the amount of government expenditure that is large requires the government to find out the order of government spending on economic growth.

Literature Review

Current account transactions occurring the size acceptance and expenses derived from the transaction of goods and services. Balance sheet transactions are final walk, not in connecting with the previous transaction or to come, such as the settlement of bills, financial or investment income the incidence (Krugman, Paul. And Maurice Obstfeld. 2005).

The results of previous surveys such as research Frankel (2004), which connects between the famine and the budget deficit current account. Research results make the growth of budget deficits is reflected in the growth of the deficit deal went. Meanwhile, Erceg, et.al, (2005) explores the twin deficits from the perspective of the balance of craft. His research results make that budget shortfall due to increased government spending by approximately 1% of GDP and balance trade balance went down almost 0.15% of GDP and the tax cuts of approximately 1% of GDP so it will the worsening trade balance of approximately 0.12% of GDP. The research Nizar, M.A (2013) also examines the influence of budget deficits against a deficit of the current account in Indonesia is using the data time series quarterly VAR and model in the period of years 1990-2012. The results indicated that a positive result against the budget deficit deal was made. The effects of research, also brought influence on budget deficit which is relatively low and loyal (one quarter), while in the period 1990-1997 its influence is bigger with a longer duration (single semester or two quarters). The effects of this research are also consistent with the twin deficit hypothesis (twin deficit hypothesis).

As an exemplar of the kinship between the government budget shortfall and the current account deficit, it cannot be ascertained how the relationship is. Therefore, research on the twin deficits continues to be carried out to make better predictions about the relationship of a deficit to other deficits so that it is easier to take policy for the future (Vyshnyak, 2000). Research by Kumhof & Laxton (2009), applying the open economy business cycle model (open economy business cycle models) discusses the possible implications of the financial stimulus package against a current news report carried by major countries in the world both in the minor as well as medium and long term. They constitute that the increment in the fiscal deficit in the United States amounted to 1% of GDP if not met with an increase in the fiscal deficit in the same totals in other rural regions will experience a worsening of transactions running the United States around 0.5% of GDP in the short term and about 0.75% in the long term.
For a small country with an open economy, by using impact to produce a deficit deal went up to 1% of GDP. Meanwhile, other studies showed results that fiscal consolidation is around 1%

of GDP would decrease the ratio of deficit to GDP current account between 0.1-0.3 percentage points (Abbas et al., 2010; Bussière, Fratzscher & Müller, 2005; Cavallo, M. 2005; Chinn & Ito, 2005; Chinn & Prasad, 2003; Gruber & Kamin, 2007). Studies conducted Bluedorn & Leigh, (2011) demonstrate the effects of fiscal consolidation over the current account, which is approximately 0.6% of GDP. In this study, everything proposed is supported and supported the twin deficit hypothesis (TDH).

Robben, Frans (2011) research found there is a relationship between the current account deficit, the deficit balance of the capital account deficit and the budget deficit (budget deficit) in Indonesia, Thailand, Philippines, Malaysia and Singapore. Ikbarshev, Moses research (2009) produces that when there is variation in the exchange rate and interest rate, yield will then strike the form of balance sheet current account and capital account sheets. This site will give an impact on the Government's fiscal condition with decreased government budget. Later, fluctuation tax revenue and state government will intervene with the stableness of the Government budget so that the budget the Government can spend up. Research by Akbostanci & Tunc (2002) conducted in the state of Turkey in 1987-2001, used the model of correction of errata and Granger methods. The results showed that the existence of the relationship with the external deficit of the inner deficit the country's economy in the short term and the long term. While in the short-term period generated a fiscal deficit that will worsen the trade deficit.

These findings are supported by Saleh, S, et al (2005), who tested the long-term relationship between deficit in State berkembar Sri Lanka in 1970 until 2003. This research used an Autoregressive Model of Distributed Lag (ARDL) and bounds test for Granger (Pesaran et al. 2001). The results showed that an imbalance of the empirical basis of current account and financing the deficit going in the long term. His research also carries out the Keynesian view. Next in his research also shows the existence of a causal relationship is the direction of deficit financing against the deficit deal went.

Anoruo & Ramchander (1998), examines the phenomenon of twin deficits in five countries constructed by using method of multi-variate model and VAR. Results argued that increased government expenditure as the follow-up reply to acceptance domestic so it will start to increasingly worsening trade balance. In his research also produced that fiscal deficits caused the trade deficit and not vice versa. While his study in the country of Malaysia the existence of causal relations due to the fiscal deficit and two-way trade deficit.

Research Zulkefly, A.K, et Al (2006), researched the relationship between the federal government revenue and spending: Empirical Evidence from the Asean-5 Countries. They concluded that the existence of a long-term relationship between government expenditure, income (taxable and tax) and economic growth for all countries of the ASEAN-5. The final result of the decomposition of variance also showed that a strong influence on the spending of

revenues in a country Malaysia, Indonesia and the Philippines. The effects of his research support the hypothesis spend-revenue hypotheses. Meanwhile, Thailand and Singapore supports ' income-spend hypothesis "revenue-spend hypotheses".

Marashdeh & Saleh (2006), doing research in a country of Lebanon in 1970 until 2004. His research analyzes the kinship between the budget deficit with a trade deficit by using method ARDL. The results showed took place between the trade deficit against the deficit in the long term and significant issue of funding. This discovery supported by research, Piersanti, Giovanni (2000), about the relationship of deficit deal with deficit belanjawan in OECD countries in the years 1970-1997. Produce research results that the existence of the relationship between the transaction runs deficits with large the budget shortage. The research Alkswani (2000) conducted a study in the country of Saudi Arabia in 1970-1999. His research examines the relationship of trade deficit against deficit financing by applying a model approach to correction of errata with methods Granger Johansen. The outcomes of the test showed a causal relationship between the occurence of trade deficit with deficit financing in long term relationships.

Research Islam, M.F (1998), conducted a survey in the rural region of Brazil that examines the relationship between the causal deficit financing with the trade deficit in the year 1973-1991 by using the method of Granger. Research findings indicate there is a causal relationship between the two focal points of these deficits. The study also supported the research results of Biswas et al. (1992), which examines in a country the United States 1950-1998 years of relationship variable transaction run with deficit financing. Produce research findings of the existence of a relationship between two-way real financing deficits with net export. While research (Evans, Paul, 1990), essayed by the consequences of the research there were no causal relationship second deficit. This means that the study holds the alignment of Ricardo research.

The research of Junaidah Hasan, et al (2009), about how the deficit balance of current account affects the budget shortfall found that budget deficit and economic growth positively correlated in the long term in the Malaysia country. Further research results also proved in the long run economic development affect the deficit balance of transactions and associated positive. The turnaround in the short term the relationship between economic growth with a deficit balance of current account touch that is negative. While the deficit balance of current score against the budget deficit, which is negative, is associated with economic growth in the short term.

Research Methodology

Data and Methodology

As explained earlier, the main objective of this study was to examine the relationship of the current account, the capital account and the government budget. The variables involved

involved consist of gross domestic product, exchange rate, domestic interest rate, foreign interest rate and inflation. The period of time used in this study was 2000.1 until 2017.4. Econometric methods in this study used test unit root and VAR models and test cause Granger was applied in this study.

Stationary Data

The time series of current account, capital account, government budget, gross domestic product, exchange rate, domestic interest rate, foreign interest rate and inflation, the exemplars of non-stationary time series, which is generated by a random process, and can be written as follows:

$$Y_t = Y_{t-1} + \varepsilon_t \quad (1)$$

Where ε_t is the stochastic error term that sticks with the classical assumptions, which means, it has zero mean, constant variance and is non autocorrelated (such an error term is also experienced as a white noise error term) and why is the time series. is the time series. Since we need to use the stationary time series for the next cointegration test and we also need to go out this unit root problem, therefore, we will extend the regression of unit root test based on the following equation:

$$\Delta Y_t = \mu + \gamma Y_{t-1} + \delta_1 \Delta Y_{t-1} + \varepsilon_t \quad (2)$$

Where we add the lagged difference terms of dependent variable Y to the right-hand side of the equation (2). This augmented specification is then utilized to examine:

H_o: $\gamma = 0$ H_1: $\gamma < 0$

Thus, both the Augmented Dickey-Fuller (1979) or ADF and Phillips-Perron (1988) or Phillips-Perron statistics are applied to examine the unit root as the null hypotheses.

Research data using the data of the year 2000.1-2017.4. Sourced from Indonesia economic and Financial Statistics (SEKI) (Bank Indonesia, 2016) and International Financial Statistics (IMF, December. 1969-2016).

Vector Autoregresive Model (VAR)

However, in this paper, since we have been concerned with empirically investigating the relationship current account, capital account and government budget during the period spanning from 2000.1 to 2017.4, therefore, we adopt a vector autoregression (VAR) approach.

As we estimated a VAR model, the following variables this research utilizes the variable current account transaction (CA), the capital account (CAC), Government budget (GOVB), gross domestic product (GDP), exchange rates (ER), domestic interest rates (DOMIR), interest rates abroad (FORIR) and inflation (INF).

Consequently, we take over a vector auto regression (VAR) approach. As we estimated a VAR model. To illustrate, a VAR model is specified as follows:

$$y_t = A_1 y_{t-1} + ... + A_p y_{t-p} + Bx_t + \varepsilon_t, \quad (3)$$

where y_t is a vector of four variables as elaborated above, x_t is a *d* vector of exogenous variables, A_1, ..., A_p and B are matrices of coefficients to be estimated, p is the order of auto regression and e_t is an 4 x 4 vector of error terms (or vector of innovations that may be contemporaneously correlated with each other but are uncorrelated with their own lagged values and uncorrelated with all of the right-hand side variables). By rearranging the Eq. 3, we can get:

$$\Delta y_t = \Pi y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \Delta y_{t-i} + \varepsilon_t \quad (4)$$

Where;

$$\Pi = \sum_{i=1}^{p} A_i - I \, , \; \Gamma_i = -\sum_{j=i+1}^{p} A_j$$

Granger's (1969) representation theorem asserts that if the coefficient matrix Π has reduced rank r<k, then there exist k x r matrices α and β each with rank r such that Π=αβ' and β'y_t is stationary. r is the number of cointegrating relations (the cointegrating rank) and each column of β is the cointegrating vector. The elements of are known as the adjustment parameters in the vector error correction model. Johansen's method is to estimate the Π matrix in an unrestricted form (reduced form), then it also allow us to test whether we can reject the restrictions implied by the reduced rank of Π.

Granger Causality Test

According to Granger (1969), a change in Y is said to be a Granger cause to the modifier X, if the omission statements are significant in making forecasting above the value of X. If both the X and Y modifiers are integrated at the level of or I (0), the Granger cause test is still valid. Therefore, the usual Granger cause test to be used is as follows;

$$CA_t = \alpha_{10} + \sum_{i=1}^{n} \delta_{1i} CAC_{t-i} + \sum_{i=1}^{n} \phi_{1i} GDP_{t-i} + \sum_{i=1}^{n} \gamma_{1i} ER_{t-i} \, v_{1t} \quad (5)$$

$$CAC_t = \alpha_{20} + \sum_{i=1}^{n} \delta_{2i} CA_{t-i} + \sum_{i=1}^{n} \phi_{2i} GOVB_{t-i} + \sum_{i=1}^{n} \phi_{2i} ER_{t-i} + \sum_{i=1}^{n} \phi_{2i} DOMIR_{t-i} + \sum_{i=1}^{n} \phi_{2i} FORIR_{t-i} + \sum_{i=1}^{n} \phi_{2i} INF_{t-i} + \sum_{i=1}^{n} \phi_{2i} GOVB_{t-i} + v_{2t} \quad (6)$$

$$GOVB_t = \alpha_{30} + \sum_{i=1}^{n} \delta_{3i} CA_{t-i} + \sum_{i=1}^{n} \phi_{3i} INF_{t-i} + \sum_{i=1}^{n} \phi_{3i} ER_{t-i} + v_{3I} \quad (7)$$

This Granger cause and effect test can only determine short-term causal relationships. This can be measured through the Wald test (F- statistic) on the co-efficients ϕ_{1i} in equation (5) and a set of coefficients δ_{2i} in equation (6) and equation ϕ_{3i} (7). The hypothesis involved in measuring short-term Granger causes is as follows;

$$H_0 : \phi_{11} = \phi_{12} = \phi_{13} ... = \phi_{1n} = 0 \quad versus \quad H_1 : \phi_{11} = \phi_{12} = \phi_{13} ... = \phi_{1n} \neq 0$$
$$H_0 : \delta_{21} = \delta_{22} = \delta_{23} ... = \delta_{2n} = 0 \quad versus \quad H_1 : \delta_{21} = \delta_{22} = \delta_{23} ... = \delta_{2n} \neq 0$$
$$H_0 : \delta_{31} = \delta_{32} = \delta_{33} ... = \delta_{2n} = 0 \quad versus \quad H_1 : \delta_{31} = \delta_{32} = \delta_{33} ... = \delta_{2n} \neq 0$$

To see the direction of the causal relationship, the p value of F statistics will be used to reject or accept the hypothesis at a significance level of 5 percent and 10 percent. If this p value is smaller than the significance level, then the null hypothesis will be rejected and if the p value is greater than the significant level, then the null hypothesis will fail to be rejected. This $H_0 : \phi_{11} = \phi_{12} = \phi_{13} ... = \phi_{1n} = 0$ refusal with CA was a short-term Granger cause for CAC and GOVB, while $H_0 : \delta_{21} = \delta_{22} = \delta_{23} ... = \delta_{2n} = 0$ the refusal also meant the CAC was a short-term Granger cause for CA and GOVB. Whereas $H_0 : \delta_{31} = \delta_{32} = \delta_{33} ... = \delta_{2n} = 0$ the refusal of the intention of the GOVB is a short-term Granger cause for CA. Positive or negative impressions can be obtained by summing the coefficients in the equations (5), (6) and (7). If $\sum_{i=1}^{n} \phi_{1i}$ produces a negative value, then CA gives a negative influence on CAC and GOVB and vice versa If $\sum_{i=1}^{n} \phi_{1i}$ produces positive values, then the CAC gives a positive impression on CA and GOVB and vice versa if $\sum_{i=1}^{n} \delta_{3i}$ produces positive values, the GOVB gives a positive impression on CA and CAC.

Results and Discussion

Test Results for Unit Root

Table 1 below describes the stationary test results data from each variable studied. The results showed that a variable balance of current account (CA), the capital account (CAC), Government budget (GOVB), the economy (GDP), exchange rates (ER), domestic interest rates (DOMIR), foreign interest rates (FORIR) and inflation (INF). Decision results using ADF tests and PP tests reject the null hypotheses for all variables in the first difference at at the 10% significance level. Since all variables are stationary at first difference, therefore it is an I (1) stochastic process. The finding implies that it is reasonable to proceed with the test for cointegrating relationship among combination of these series under the premise of non-stationary.

Table 1: Unit root test results

	ADF		**PP**	
	Level	**1st Difference**	**Level**	**1st Difference**
Current Account (CA)	-0.3340	-8.5449***	-1.9246	-14.8397***
Capital Accaount (CAC)	-0.7764	-4.4356***	-0.4289*	-4.0345***
Gov Budged (GOVB)	-0.6992	-7.0372***	-1.5070	-5.2855***
Economics (GDP)	2.1933	-47.4486***	3.5471	-10.7811***
Exchange Rate (ER)	-1.8345	-76798***	-2.0655	-7.6796***
Domestic Interest Rate (DOMIR)	-2.3643	-3.9944***	-1.6329	-3.9198***
Foreign Interest Rate (FORIR)	-3.4272**	-6.2939***	-2.0172	-6.4483***
Inflation (INF)	-3.2334	-3.6754***	-2.0432	-4.5332***

Note: * at the 1% significance level, ** at the 5 % significance level, * * * at the 10 % significance level.

Cointegration Test Results

Since the time series of current account (CA), the capital account (CAC), Government budget (GOVB), the economy (GDP), exchange rates (ER), domestic interest rates (DOMIR), foreign interest rates (FORIR) and inflation (INF) are found to be integrated of the same order (order one), a cointegration test can be conducted to determine whether a long run equilibrating relationship exist between them.

The parameter estimates of the cointegrating model are reported in Table 2 (a) and 2 (b). The Johansen, S (1995) test reject the null hypotheses at the 1% significant level which proves the existence of cointegrating relationship between variable in the long term. However, the

Johansen test result also rejects the null hypotheses that at least exist one, two and three cointegrating vectors, respectively, between current account, capital account and government budget. Overall, this result indicates the presence of long-run co-movement or cointegration among the variable test. The Decision Cointegration Johansen test (Trace statistic and Max-Eigen statistic) are reported in Table 2 (a) and 2 (b) below.

Table 2(a): Johansen Test Statistics For Cointegration (Trace Statistic)

Number Hypothesis Cointegration Equation	Eigen value	Trace statistic	Probability value
Critical value			Probability
r = 0	0.7197	237.1530*	0.0000
r ≤ 1	0.6147	164.6589*	0.0000
r ≤ 2	0.5307	110.2946*	0.0034
r ≤ 3	0.3481	67.1656	0.0799
r ≤ 4	0.2690	42.7737	0.1382
r ≤ 5	0.2038	24.9114	0.1646
r ≤ 6	0.1532	11.9182	0.1609
r ≤ 7	0.0419	2.4423	0.1181

Note: The Johansen statistics were generated by a model with constant. The lag intervals for this analysis is (1 1) lags; All variables were tested in the log function; * denote rejections of the null at the 1 %; ** denote rejections of the null at the 5 %.

Table 2(a): Johansen Test Statistics For Cointegration (Max- Eigen Statistic)

Number Hypothesis Cointegration Equation	Eigen value	Statistic Max-Eigen	Probability value
Critical value			Probability
r = 0	0.7197	72.4940*	0.0002
r ≤ 1	0.6147	54.3643*	0.0056
r ≤ 2	0.5307	43.1289*	0.0220
r ≤ 3	0.3481	24.3919	0.4273
r ≤ 4	0.2690	17.8622	0.5066
r ≤ 5	0.2038	12.9931	0.4529
r ≤ 6	0.1532	9.4759	0.2487
r ≤ 7	0.0419	2.4423	0.1181

Note: The Johansen statistics were generated by a model with constant. The lag intervals for this analysis is (1 1) lags. All variables were tested in the log function. * denote rejections of the null at the 1 %; ** denote rejections of the null at the 5 %.

Granger Causality Results

Table 3 below shows the decision of the Granger cause-and-effect test shown in Schedule 3. The study results obtained for each value of the CA probability of the CAC or CAC against CA is less than the 5 percent significance level. With the meaning of the word current account balance variable on the capital account balance has a two-way relationship or influence each other. From the results of the Granger Causality test, each CA probability value against GOVB or GOVB against CA is small from at the 5 % significance level. With the significance of the word current account balance variable on the government budget has a two-way relationship or influence each other. From the results of the Granger Causality test, each CAC probability value against GOVB or GOVB against CAC is smaller than at the 5 % significance level. With the significance of the word capital balance variable on the government budget has a two-way relationship or influence each other.

From the findings it can be concluded that the three variables of current accounts, capital accounts and government budgets are mutual influences between each other or in other words the relationship between two relationships causes between CA, CAC and GOVB. This can be seen if the p value for the two null hypotheses is significant at 1% significance level. So, in this case we are forced to reject the three null hypotheses. The rejection of the null hypothesis is intended, CA is the cause of Granger to CAC, when CAC is the cause of granger to CAC to CA. Furthermore, CA is the cause of granger to GOVB and GOVB is the cause of Granger to CA. When CAC is a Granger cause to GOVB and the opposite of GOVB is the cause of Granger to CAC. See below Table 4 for Granger Causality Results.

Table 4: Granger Causality Results

Null Hypothesis	F-Statistic	Probability
CA does not Granger Cause CAC	6.1823	0.0032*
CAC does not Granger Cause CA	5.2435	0.0071*
CA does not Granger Cause GOVB	5.0543	0.0114*
GOVB does not Granger Cause CA	5.2213	0.0366*
CAC does not Granger Cause GOVB	7.1675	0.0032*
GOVB does not Granger Cause CAC	7.1438	0.0022*

Note: * at the 1% significance level.

Variance Decomposition Results

To further strengthen the influence of physical variables against the remainder of the transaction runs, then performed a test of decomposition of variance as presented in table 5. Grounded along the outcomes of the findings described variable itself in general from 1, each variable CAC (97.7%); GOVB (74.09%); ER (91.3%); DOMIR (87%); FORIR (71.68%);

GDP (86.2%); INF (60.2%) unless the variable balance sheet transactions running which is capable of explaining the variable itself of 77.3% in the period 2.

Resolutions were also obtained that the variable that affect the rest of the transaction runs significantly variable is GDP and GOVB at t-3 and ER on t-5. While the variable capital account is significantly affecting the variable GOVB in the t-4 and t-5 and t-5 on FORIR. The next variable that affects GOVB is significantly on the t-1 and CA at t-5. The outcomes of this study explain the importance of fiscal variables to reduce the deficit of the symmetry of the dealings and the exchange rate. Following the results also earned contribution to the variance GOVB was 82% and later pursued by the variable capital account amounting to 77% and the rest of the transaction runs amounted to 38%. By using the F test found variable GOVB and CAC is significant. While variable CA does not significantly affect other variables.

In Table 5 below it can be determined that the capital account variables, the government budget, the Indonesian economy and the exchange rate have a significant effect on the current account balance. The effect of balance sheet variables on the capital account is positive and significant. This means that an increase in the capital account will increase the current account balance, this is due to the large amount of foreign capital entering Indonesia. Furthermore, this increase in capital flows will encourage economic activity so that export activities will also increase. Increased exports will certainly increase the current account balance. In addition, an increase in capital inflows will also lead to demand for domestic currencies that will encourage appreciation. The appreciation of the domestic currency will also encourage an increase in imports and a decline in exports so that the current account deteriorates (Bagheri, F et.al, 2012).

The government budget also shows a large contribution to the current account balance. This is due to an increase in the government budget will also drive economic activity, especially raising export activities. Increased exports will increase the current account balance. Furthermore, Indonesian economists have a negative and significant effect on the current account balance. If Indonesia's economy experiences an increase, it will also have an impact on increasing imports. Increasing imports will reduce the trade surplus because imports are greater than exports. While exports are not affected by the domestic economy, exports are affected by the foreign economy.

The exchange rate variable also plays a role in the current account balance. This is due to the occurrence of exchange rate depreciation which will cause prices of Indonesian export goods to fall so that demand for Indonesian products rises, while the price of imported goods becomes expensive. Growing need for export products and decreasing demand for imported products will improve the trade balance because exports are larger than imports. The use of variable domestic interest rates as well contributes to Indonesia's capital balance. This is due to an increase in domestic interest rates, which encourages foreign capital inflows so that the capital

balance will increase, but foreign interest rates do not contribute to Indonesia's capital balance, because not all countries invest in Indonesia. This is because the variable interest rates abroad rise or fall this condition does not cause investors want or not to invest in Indonesia. But when the country's economic conditions are good and interest rates are high, this condition encourages capital inflow.

The results also found that the current account balance variable also contributed to the Indonesian government budget. This is because, an increase in the capital account will encourage increased capital inflows into Indonesia, which in turn will bring income to the Indonesian state. Therefore, this condition will encourage an increase in the Indonesian government budget. Furthermore, the Indonesian economy has increased against the government budget in Indonesia. With the significance of the word, improving the Indonesian economy will cause the government budget to rise because economic growth will increase income for the economic system.

Furthermore, the exchange rate also affects the government budget. This depreciated exchange rate causes the prices of foreign goods in the country (imported goods) to be higher or more expensive so that the demand for imported goods becomes lower. This declining increase in exports and imports will cause an impact on increasing trade surpluses. The trade balance surplus will encourage an increase in the country's foreign exchange reserves and this will increase revenue. The increased income will later increase the government budget.

Table 5: Variance Decomposition of Indonesia Current Account, capital account and Government Budget

(a) Current Account

Explained by Innovation in:									
period	S.E	CA	CAC	GOVB	ER	DOMIR	FORIR	GDP	INF
1	6807.139	100.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	7803.031	77.336	7.429	1.248	2.779	2.451	0.418	3.194	5.142
3	8168.172	73.984	8.089	1.459	2.540	2.990	0.414	5.820	4.699
4	8301.361	72.110	7.840	1.614	2.459	3.290	0.417	7.700	4.565
5	8397.611	70.471	7.662	1.893	2.458	3.340	0.571	9.111	4.490
6	8464.201	69.366	7.602	1.893	2.421	3.319	0.880	9.958	4.556
7	8527.722	68.350	7.560	1.908	2.397	3.272	1.138	10.75	4.616
8	8596.713	67.299	7.500	2.001	2.365	3.220	1.348	11.664	4.599
9	8666.607	66.247	7.452	2.067	2.328	3.169	1.534	12.664	4.535
10	8738.349	65.172	7.448	2.078	2.290	3.117	1.706	13.721	4.462

(b) Capital Account

Explained by Innovation in:									
period	S.E	CA	CAC	GOVB	ER	DOMIR	FORIR	GDP	INF
1	3.245	2.214	97.785	0.000	0.000	0.000	0.000	0.000	0.000
2	5.188	1.871	92.696	0.136	0.447	0.000	4.014	0.045	0.786
3	6.587	1.944	83.333	1.346	3.871	0.007	7.890	0.269	1.336
4	7.560	2.653	73.938	3.789	8.091	0.214	9.405	0.244	1.662
5	8.237	4.599	65.648	5.729	11.780	0.778	9.528	0.343	1.591
6	8.724	7.016	59.097	6.166	14.699	1.560	8.983	1.053	1.423
7	9.092	8.943	54.412	5.785	16.511	2.253	8.334	2.428	1.330
8	9.405	10.11	51.325	5.455	17.237	2.591	7.793	4.202	1.283
9	9.679	10.61	49.504	5.412	17.175	2.581	7.420	6.050	1.239
10	9.912	10.65	48.519	5.487	16.696	2.461	7.197	7.783	1.194

(c) Government Budget

Explained by Innovation in:									
period	S.E	CA	CAC	GOVB	ER	DOMIR	FORIR	GDP	INF
1	7.737	0.055	25.847	74.097	0.000	0.000	0.000	0.000	0.000
2	11.700	0.166	22.455	73.028	0.070	0.495	1.685	2.099	0.000
3	13.957	0.120	23.467	62.756	1.860	2.194	2.339	6.882	0.378
4	15.402	0.115	25.241	52.188	3.336	4.545	2.457	10.983	1.130
5	16.517	0.306	26.333	45.829	4.344	6.328	2.299	13.265	1.291
6	17.272	0.539	26.814	43.085	4.982	6.915	2.107	14.369	1.187
7	17.640	0.678	26.853	42.078	5.354	6.826	2.056	14.933	1.218
8	17.795	0.773	26.612	41.532	5.584	6.715	2.164	15.232	1.385
9	17.899	0.855	26.306	41.051	5.711	6.784	2.400	15.350	1.539
10	18.003	0.930	26.029	40.679	5.763	6.885	2.718	15.384	1.606

(d) KURS

Explained by Innovation in:									
period	S.E	CA	CAC	GOVB	ER	DOMIR	FORIR	GDP	INF
1	526.634	8.456	0.018	0.199	91.325	0.000	0.000	0.000	0.000
2	702.782	26.460	0.167	1.338	68.514	0.682	0.007	0.503	2.325
3	833.624	33.113	0.434	5.142	57.162	0.525	0.348	1.550	1.721
4	912.943	32.305	0.441	9.740	53.434	0.445	0.664	1.515	1.451
5	954.433	30.983	0.434	12.218	51.722	0.604	1.147	1.516	1.373
6	979.751	30.271	0.587	12.948	50.638	1.114	1.528	1.529	1.380
7	995.059	29.789	0.719	13.050	49.758	1.964	1.773	1.587	1.355

8	1004.821	29.327	0.810	13.013	48.964	2.904	1.959	1.690	1.330
9	1012.104	28.907	0.886	12.941	48.269	3.708	2.134	1.819	1.330
10	1018.380	28.587	0.952	12.845	47.694	4.293	2.315	1.960	1.350

(e) DOMIR

Explained by Innovation in:									
period	S.E	CA	CAC	GOVB	ER	DOMIR	FORIR	GDP	INF
1	0.645	0.186	1.365	11.310	0.029	87.108	0.000	0.000	0.000
2	1.117	2.182	1.396	11.555	0.012	78.881	2.744	1.955	1.270
3	1.449	5.101	0.842	12.589	1.442	68.194	6.934	1.270	3.623
4	1.687	6.759	1.062	12.616	4.260	57.361	10.892	1.040	6.007
5	1.873	8.110	1.791	11.830	7.273	48.151	14.077	1.294	7.469
6	2.017	9.179	2.483	10.963	10.049	41.690	16.054	1.780	7.799
7	2.119	9.876	2.863	10.405	12.199	37.776	17.053	2.256	7.572
8	2.186	10.274	2.945	10.209	13.652	35.604	17.471	2.615	7.227
9	2.228	10.445	2.891	10.305	14.506	34.458	17.552	2.879	6.961
10	2.255	10.450	2.823	10.590	14.892	33.900	17.456	3.081	6.804

(f) FORIR

Explained by Innovation in:									
period	S.E	CA	CAC	GOVB	ER	DOMIR	FORIR	GDP	INF
1	0.503	4.440	0.012	0.206	15.097	8.556	71.686	0.000	0.000
2	0.752	4.394	1.100	0.965	6.762	9.847	71.291	5.584	0.054
3	0.941	5.295	3.167	1.790	4.341	9.584	68.247	7.532	0.038
4	1.088	4.800	5.003	2.632	3.246	9.470	66.169	8.617	0.059
5	1.212	4.280	6.995	3.313	2.750	9.745	62.926	9.855	0.131
6	1.315	3.923	8.889	3.624	2.574	10.383	59.355	11.046	0.200
7	1.399	3.634	10.475	3.609	2.575	11.294	55.975	12.157	0.278
8	1.466	3.404	11.741	3.446	2.658	12.301	52.915	13.146	0.385
9	1.517	3.240	12.685	3.266	2.742	13.234	50.323	13.973	0.533
10	1.555	3.132	13.320	3.122	2.794	13.993	48.270	14.645	0.720

(g) GDP

Explained by Innovation in:									
period	S.E	CA	CAC	GOVB	ER	DOMIR	FORIR	GDP	INF
1	11479.36	0.0002	1.170	0.966	4.711	0.077	6.818	86.254	0.000
2	13690.97	1.135	1.869	0.688	3.329	1.444	13.073	78.405	0.052
3	15582.47	1.415	1.804	0.653	2.593	2.532	14.907	76.029	0.064

4	17430.65	1.375	2.341	0.859	2.372	2.822	15.888	74.280	0.059
5	19152.65	1.213	2.830	1.126	2.192	2.941	16.171	73.444	0.079
6	20738.39	1.129	3.142	1.264	2.121	2.920	16.013	73.308	0.100
7	22266.80	1.104	3.387	1.314	2.145	2.844	15.781	73.294	0.127
8	23718.14	1.099	3.598	1.341	2.180	2.759	15.555	73.324	0.141
9	25104.62	1.100	3.755	1.378	2.218	2.686	15.333	73.380	0.145
10	26438.68	1.098	3.862	1.434	2.254	2.626	15.121	73.456	0.145

(h) INF

Explained by Innovation in:									
period	S.E	CA	CAC	GOVB	ER	DOMIR	FORIR	GDP	INF
1	1.633	0.793	1.334	14.349	0.119	20.745	2.327	0.127	60.202
2	2.246	0.710	1.085	27.132	0.633	34.833	2.075	0.835	32.694
3	2.604	1.362	0.913	33.199	1.205	32.532	5.729	0.630	24.426
4	2.882	2.523	2.425	32.469	3.958	26.894	9.179	1.132	21.415
5	3.140	3.254	5.342	28.591	6.532	23.164	11.420	2.339	19.354
6	3.356	3.669	7.743	25.114	8.417	21.694	12.435	3.461	17.463
7	3.500	3.872	8.992	23.096	9.664	21.295	12.745	4.214	16.118
8	3.574	3.978	9.370	22.150	10.430	21.218	12.781	4.599	15.468
9	3.608	4.036	9.360	21.750	10.857	21.208	12.724	4.758	15.303
10	3.624	4.055	9.281	21.626	11.038	21.205	12.638	4.813	15.339

Conclusion

The main purpose of this paper is to examine empirically the relationship between the current account (gross domestic product, exchange rate), capital account (government budget, exchange rate, domestic interest rate, foreign interest rate), government budget (current account, inflation and exchange rate). Using an econometric framework such as the Johansen cointegration methodology, test the cause of the Granger cause and the variance decomposition framework. The findings can be summed up as follows, first using the Johansen cointegration test found that there is a variable long-term relationship between current account, capital account and government budget.

By applying the Granger causality test, it can be concluded that the three variables of current account, capital account and government budget are mutual influences between each other or in other words, the direction of the causes of two things between CA variables is the Granger cause to the CAC, and CAC is the cause of granger to CAC to CA. Whereas CA is the cause of Granger to GOVB and GOVB is the case of Granger to CA. When CAC is a Granger cause to GOVB and the opposite of GOVB is the case of Granger to CAC.

The effects of the decomposition variance test also concluded that there was a substantial influence from variable capital accounts and exchange rates. While the variables that affect the current account balance are variables, the economy and government budget, while the variables of exchange rates and variables affect the agreement on the government budget significantly. The effect can also be understood that the biggest contribution to other variables is the government budget variable and the lowest contribution is the current account balance but the current account balance variable significantly influences other variables. The results of the study can also be guessed that domestic interest rates, capital accounts and inflation do not play an important role to stimulate the current account balance and government budget, while the current account does not have an important role in variable capital accounts.

The results of the study can be ascertained that the variability of capital, government budget, economy, and the exchange rate have a significant effect on Indonesia's current account balance. This means that if the profit in the capital account, the Government budget and the decline in the economic system, as well as an increase in the exchange rate, will result in an increase in the current account ratio. The next variable is the ratio of the current report, the government budget, the domestic interest rate also has a significant capital balance sheet to Indonesia. This means, if the rest of the current report, the government budget, interest rates in rural areas have increased, it will result in an increase in capital accounts. But the variable foreign interest rate does not have the strength in the capital account sheet significantly to Indonesia. The results of subsequent studies can also be concluded, bringing the balance sheet of the current account balance, capital account, Indonesian economy, exchange rate, interest rates and rising costs in the country, have a significant effect on the government of Indonesia's budget. This means an increase in the variables that affect the rest of the current account, capital account, economy. The decline in domestic interest rates, and the inflation rate will cause an increase in the Government of Indonesia's budget.

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