

Twin Deficit Phenomena in the Two Government Eras in Indonesia

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Abstract

Keywords:

Twin Deficit; Gross Domestic Product; Interest Rates

The aim of this study is to analyze the development of the budget deficit and current account deficit in Indonesia in the era of President SBY and President Jokowi and to compare between the two eras. This study also analyzes the relationship of twin deficits to the Gross Domestic Product (GDP) and the interest rate (r). The analytical tool used was independent t-test (for comparison) and Vector Auto-Regressive (VAR). The data used comes from the International Monetary Fund (IMF), 2004:Q1-2018: Q3. The result showed that the budget deficit was the same in the two eras of government, but the trade balance deficit in the era of President Jokowi was far higher than before. The budget deficit has a significant effect on the trade balance deficit but does not apply otherwise (no causality). Variable gross domestic product and interest rates significantly influence both types of deficits.

Abstrak

Kata-kata kunci:

Twin Deficit; Produk Domestik Bruto; Suku bunga

Penelitian ini bertujuan untuk analisis perkembangan defisit anggaran dan defisit transaksi berjalan di Indonesia di era Presiden SBY dan Presiden Jokowi, serta membandingkan di antara kedua era tersebut. Penelitian ini juga menganalisis hubungan defisit ganda terhadap Produk Domestik Bruto (PDB) dan tingkat bunga (r). Alat analisis yang digunakan adalah independent t-test (untuk perbandingan) dan Vector Auto-Regressive (VAR). Data yang digunakan berasal dari International Monetary Fund (IMF), periode 2004:Q1-2018:Q3. Hasil analisis menunjukkan bahwa defisit anggaran tidak berbeda di kedua era pemerintahan, namun defisit neraca perdagangan pada era Presiden Jokowi jauh lebih besar dari sebelumnya. Defisit anggaran berpengaruh signifikan terhadap defisit neraca perdagangan, namun tidak berlaku sebaliknya. Variabel produk domestik bruto dan tingkat bunga berpengaruh signifikan terhadap kedua jenis defisit tersebut.

1. Introduction

The Central Statistics Agency (BPS) recorded Indonesia's trade balance as of April 2019 deficit or overdrawn of US \$ 2.50 billion. This value comes from the export value of US \$ 12.6 billion and imports of US \$ 15.10 billion. The trade balance (current account, CA) deficit figure as of April 2019 has become the largest in the history of Indonesia's independence. Previously, the most massive deficit occurred on July 2013 of US \$ 2.3 billion. The most significant source of the deficit was from the oil and gas sector at US \$ 1.49 billion. This significant deficit closes another fact that in March 2019 there was a surplus of US \$ 0.54 billion.

At the same time, the State Budget (APBN) also always has a deficit. Since its inception, state spending has been designed to be higher than its income. According to the

Law, Number 17 of 2003 concerning State Finance, states that the maximum budget deficit limit of 3% of Gross Domestic Product (GDP) while the maximum allowable debt ratio is 60 percent of GDP.

If a country experiences a current account deficit and a budget deficit at the same time, then the country experiences a twin deficit phenomenon. According to [Mankiw \(2010\)](#), using the IS-LM approach, if there is an increase in government spending or tax cuts, it will shift the IS curve to the right, increasing income and interest rates whereas high-interest rates reduce capital outflow net. The decline will reduce the supply of domestic currency in the foreign exchange market so that the rupiah will appreciate. This condition will cause domestic goods to be relatively more expensive compared to foreign products, which will cause net exports to fall ([Mankiw, 2010](#)). In an open economy, expenditure on domestic output is the sum of consumption, investment, government spending, and net exports. Therefore, if there is an increase in net exports, the output will also increase ([Mankiw, 2010](#)).

Many researchers have a study on the twin deficit hypothesis, previously. For the Indonesian context, [Nizar \(2013\)](#) examines whether there is an effect of the budget deficit on the current account in Indonesia with quarterly data for 1990-2002. [Nizar \(2013\)](#) found the effect of the budget deficit on the trade balance deficit. Also, the phenomenon of the global economy is declining, affecting the trade balance deficit, through the exchange rate and petroleum imports ([Nizar, 2013](#)). A similar result was obtained by [Kuncahyo \(2016\)](#) when analyzing the twin deficit phenomenon in Indonesia in 1981-2012 which found that the budget deficit affected the trade balance deficit but not with the reverse relationship ([Kuncahyo, 2016](#)).

Similar research was carried out by [Budiyanti \(2013\)](#) in the case of 5 ASEAN countries (Indonesia, Malaysia, Singapore, Thailand, and the Philippines). The dependent variable in this study is the Current Account Deficit (CAD), while the independent variables are Budget Deficit (BD), Saving (SV), Investment (INV), and Trade Openness (TO). The research found that individually SV and INV variables affected CAD, whereas BD and TO did not affect. The BD variable does not affect because the country can cover the deficit using the previous year's surplus ([Budiyanti, 2013](#)). Because the data used are cross-country, then there is a possibility that data gaps between countries are very likely to occur.

Various studies in many countries find different facts related to the relationship between the budget deficit and the current account deficit. [Kiran \(2011\)](#) found a relationship between the budget deficit and the current account deficit in Turkey. In Pakistan, there was a two-way relationship between the government budget deficit (BD) and the current account deficit (CA). Both have a positive two-way relationship both in the short and long term ([Mudassar, Fakher, Ali, & Sarwar, 2013](#)). Similar findings in Ghana with data from 1980-2014 ([Senadza & Aloryito, 2016](#)); in Tanzania, with data from 1966-2015 ([Epaphra, 2017](#)).

Studies conducted by [Ahmad & Aworinde \(2015\)](#) in several African countries show conflicting results. Research in Botswana, Cameroon, Egypt, Ghana, Morocco, Nigeria, Tanzania, and Tunisia has a positive relationship between the budget deficit (BD) and the current account deficit (CAD). Different results found in Ethiopia, Kenya, South Africa, and Uganda there is a negative relationship between the budget deficit (BD) and the current

account deficit (CAD) (Ahmad & Aworinde, 2015). Therefore, the study of the double deficit phenomenon is still quite exciting and needs to be done, especially in Indonesia.

The economic performance of a country is a reflection of the work of the ruling government. After the 1997-1998 economic crisis, a period of government that was quite stable social, political, and economic situation began in the era of President Susilo Bambang Yudhoyono (SBY) in 2004. President SBY took full office by the presidential period, in contrast to President Habibie (1998-1999); President Gus Dur (1999-2001); President Megawati (2001-2004). Even President SBY served two periods until 2014 until he replaced by President Joko Widodo (Jokowi).

This research focuses on analyzing the development of the budget deficit and current account deficit in Indonesia. Furthermore, this study compares the two variables in two different periods of government, namely President Susilo Bambang Yudhoyono (SBY) and President Joko Widodo (Jokowi). This comparison is considered exciting and vital, considering that President Jokowi focused on building a very massive infrastructure, different from the previous period. This study also analyzes the impact of a double deficit on Gross Domestic Product (GDP) and the interest rate (r).

2. Method

This study uses quarterly secondary data (time series) from the period 2004: Q1 - 2018: Q3 with a case study of Indonesia. The variables used include: (1) government budget (budget balance, BB) which is the ratio of the difference in the realization of state revenue reduced by state expenditure to GDP (being a proxy of the budget deficit); (2) current account balance (CA), which is the difference between the balance of the trade balance and the service balance displayed through the ratio to GDP; (3) gross domestic product (GDP) displayed in million rupiah (Ahmad & Aworinde, 2015; El-baz, 2014; Epaphra, 2017; Sakyi, Evans, & Opoku, 2016). (4) interest rates displayed in percentage terms (Ahmad & Aworinde, 2015; Epaphra, 2017; Kuncayho, 2016; Sakyi et al., 2016).

Analysis of the development of the budget deficit and current account deficit in Indonesia is done graphically descriptive. The comparison of the two variables in two different periods of government, namely President Susilo Bambang Yudhoyono (SBY) and President Joko Widodo (Jokowi) used the independent sample t-test. Before testing the independent sample t-test, it is necessary to test the data normality to ensure the data is normally distributed (Sekaran & Bougie, 2016). In order to analyze the impact of a double deficit on Gross Domestic Product (GDP) and the interest rate (r), it uses the Vector Auto-Regressive (VAR) model.

According to Ascarya (2012), VAR is an a priori model of economic theory but is very useful in determining the exogenous level of an economic variable in an economic system where interdependence between variables in the economy. The VAR model can be written as Eq.(1) (Widarjono, 2013):

$$Y_{nt} = \beta_{01} + \sum_{i=1}^p \beta_{in} Y_{1t-i} + \sum_{i=1}^p \alpha_{in} Y_{2t-i} + \dots + \sum_{i=1}^p \gamma_{in} Y_{nt-i} + e_{nt} \quad (1)$$

The left variable is the lag of the right variable. So it is called autoregressive while the vector illustrates that there are two or more directional relationships in the model.

The VAR model in this study uses the dependent variable (1) the ratio of the realization of the government budget to GDP (BB); (2) the ratio of the current account to GDP (CA); (3) gross domestic product (GDP); and (4) interest rates (R). The test uses secondary data taken from Bank Indonesia and the International Monetary Fund (IMF) from 2004Q1-2018Q3. Before estimating the VAR model above, it is necessary to do some testing first (Widarjono, 2013):

1. Stationarity test to prove the stability of the patterns of each variable. This test is essential because data that is not stationary tends to produce uneven regression. The method used in this study is the Augmented Dickey-Fuller (ADF) test.
2. Determination of the optimal lag length to find out the period for a variable is influenced by its past variable and other independent variables. Too little lag will potentially lead to specification bias problems whereas if too much will spend degrees of freedom, and thus the estimation will be inefficient.
3. Granger causality tests are carried out to look for causal relationships or causality tests between endogenous variables in the VAR system. Where the tested causal relationship can occur one-way or two-way or reciprocal or there is no relationship at all.

Impulse Response Function (IRF) and Variance Decomposite (VD) tests are essential analyzes in the VAR model. IRF is used to track changes from endogenous variables to other variables in the VAR system. VD is used to predict the contribution of each endogenous variable in the model.

3. Result and Discussion

Development of the Budget Deficit and Current Account Deficit in Indonesia

The budget deficit is proxied by the ratio of the difference from the realization of state revenues reduced by state expenditure to GDP (budget balance, BB). Quarterly data obtained from the IMF. Within around 14 years (2004-2008), Indonesia experienced a dynamic budget deficit which presented in Figure 1.

In Figure 1, it appears that there are times when the budget balance (BB) is positive, not infrequently, also negative. However, the fluctuation is seen to be higher during the era of President SBY than in the era of President Jokowi. This fluctuation is evidenced by the higher standard deviation as presented in Table 1 of BB in the era of President SBY compared to the era of President Jokowi ($0.02891 > 0.01618$). However, the average value of the two periods is not much different.

Table 1. Average values and standard deviations of BB and CA variables

	Budget Balance (BB)		Current Account (CA)	
	average	Stand. Dev.	average	Stand. Dev.
SBY's era	-.0107	.02891	.0001	.02321
Jokowi' era	-.0240	.01618	-.0201	.00663

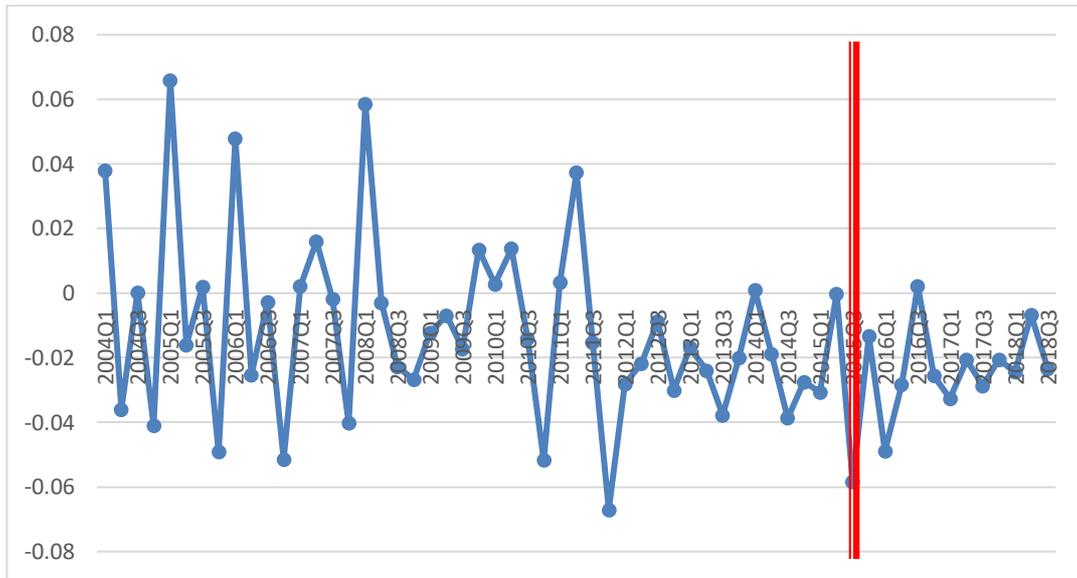


Figure 1. Development of Indonesia's budget deficit

The development of Indonesia's balance of payments (current account, CA) also shows dynamic conditions. It is just that, in the early years of President SBY's administration quite often there was a surplus, then decreased to a deficit since the second quarter of 2011. This deficit continued until the era of President Jokowi, who experienced more deficits. This fact was confirmed by the positive average balance of payment data in the era of President SBY, while in the era of President Jokowi it was negative. The phenomenon of a twin deficit began in 2012 when the government budget and the trade balance experienced a deficit as presented in Figure 2.

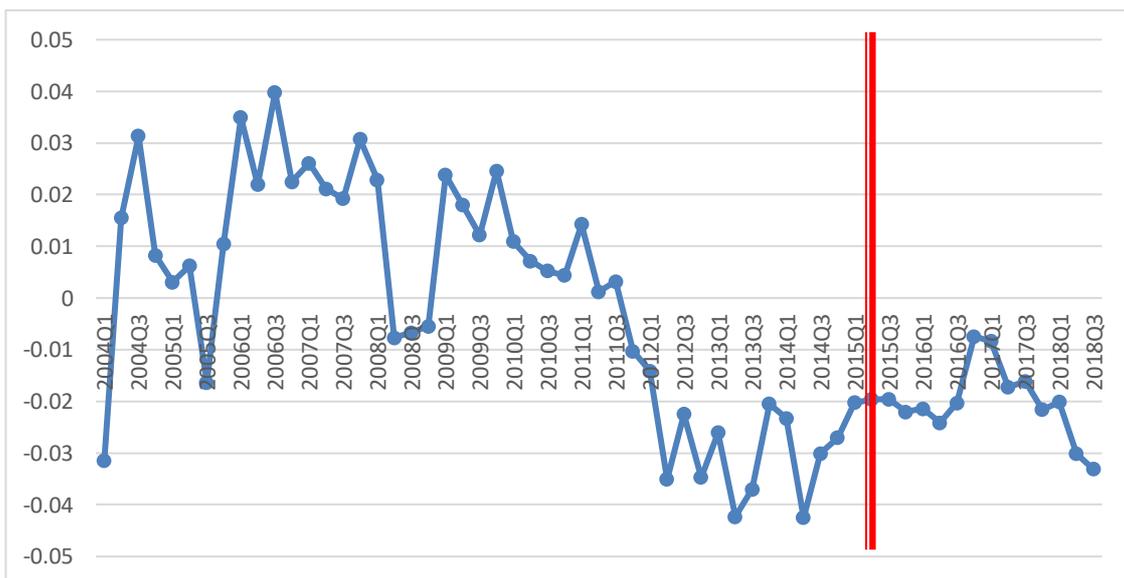


Figure 2. Development of Indonesia's Current Account (CA)

Comparison of Budget Deficits and Current Account Deficits in SBY and Jokowi's Era

Based on the results of the normality test, obtained sig. Shapiro-Wilk and Kolmogorov-Smirnov, which are higher than $\alpha = 5\%$ (0.05), so that the distribution of all data are normal. Therefore, the comparison of the budget deficit and the trade balance deficit in the era of President SBY and President Jokowi run by an independent sample t-test method. The era of President SBY began with 2004 data: Q1-2014: Q3 (44 data), while President Jokowi's era began with 2014 data: Q4-2018: Q3 (15 data). The difference in the amount of data does not matter in the independent sample t-test because what make into consideration is the average value (Algifari, 2013). The results of the independent sample t-test are presented in Table 2.

Table 2. Independent samples T-Test result

	BB	CA
t-value	1,690	3,313
Sig. (2-tailed)	0,096	0,002
Mean Difference	0,013	0,020

The average of two different test results in Table 2 shows that in the budget deficit variable which is proxied by the budget balance (BB) there is no significant difference between the period of President SBY and President Jokowi (sig value $0.096 > 0.05$). It means that both presidents face the same problem (average negative BB variable in both governments), namely the budget deficit in order to achieve high economic growth. The government is always trying to increase spending (G) to push economic growth in a positive direction.

Different things occur in the trade balance deficit variable, where there are significant differences in the current account (CA) variable in the two eras of government (sig value $0.002 < 0.05$). The average trade balance deficit in the era of President Jokowi (-0.0201) was far higher than in the era of President SBY (0,0001). Internally, infrastructure development that was still massive during the era of President Jokowi made the need for many imported goods increase. Besides, oil imports are still suspected to be a potential cause of the trade balance deficit that has not been able to be adequately overcome.

The Phenomenon of Twin Deficit and its Impact on Gross Domestic Product (GDP) and Interest Rate (r)

By employing the Vector Auto-Regressive (VAR) model, this study analyses the phenomenon of multiple deficits and their impact on Gross Domestic Product (GDP) and interest rate (r). The first step is to test the stationarity of all variables. Stationary test results show (Table 3) that all variables are stationary at the level (Prob value < 0.05). Therefore, the model used is VAR.

The next step is to test the selection of optimal lag because too little lag will potentially cause problems with specification bias. Conversely, if too much lag will spend degrees of freedom, and thus the estimation becomes inefficient (Ariefianto, 2012). Table 4 shows the optimal lag selection test results.

Table 3. Data stationarity test results

Variable	ADF Statistic	Level	
		t-statistic 0.05	Prob.
		Intercept	
BB	-9.165139	-2.912631	0.0000***
CA	-2.462336	-2.912631	0.1299
LN_GDP	-4.067215	-2.917650	0.0024***
r	-4.150082	-2.913549	0.0018***
		Trend and Intercept	
BB	-7.979597	-3.492149	0.0000***
CA	-4.747886	-3.489228	0.0016***
LN_GDP	-1.222446	-3.496960	0.8954
r	-4.790539	-3.490662	0.0015***
		None	
BB	-1.371466	-1.946878	0.1562
CA	-2.423459	-1.946549	0.0161**
LN_GDP	0.536537	-1.947520	0.8285
r	-0.520111	-1.946764	0.4870

***) significant at 1%. **) significant at 5%

Table 4. Optimal lag selection test results

Lag	LR	FPE	AIC	SC	HQ
0	NA	4.78E-08	-5.504698	-5.357366	-5.447878
1	419.4996	1.66E-11	-13.47332	-12.73666	-13.18922
2	63.06821	7.46E-12	-14.28224	-12.95626	-13.77086
3	54.09311	3.70E-12	-15.009	-13.09368*	-14.27033
4	39.75794*	2.40E-12*	-15.49094*	-12.9863	-14.52500*
5	14.34284	3.06E-12	-15.33298	-12.23901	-14.13976

From [Table 4](#), AIC recommends lag four (4) as the optimal lag, while SC recommends lag three (3). Therefore, it is necessary to make a selection using the lowest AIC and SC values for each of lag 1 to lag 4 as presented [Table 5](#).

Table 5. Advanced test results for optimal lag selection

Lag	AIC	SC
1	-13.02636	-12.31586
2	-13.88697	-12.59662
3	-14.83568	-12.955*
4	-15.35683*	-12.87503

Based on the comparison of the values of AIC and SC in [Table 5](#), the AIC recommends lag 4 and SC recommends lag 3 by comparing the biggest Adj. R-Square of each variable 1 as presented in [Table 6](#).

Table 6. Adj. results R-square

Lag	BB	CA	GDP	r
1	0.183811	0.745595	0.997441	0.841954
2	0.153503	0.758564	0.99753	0.937679
3	0.435781	0.795574*	0.998138	0.946442
4	0.49759*	0.77912	0.998759*	0.946585*

Based on the results in Table 6, the value of Adj. The largest R-Square for each variable is at lag 4. Therefore, the next VAR test will use lag 4 as the optimal lag. Then the stability of the VAR model is tested with a modulus value, <1 so that the model can be said to be stable. Modulus test results show that all modulus values are less than 1 so that the model built is stable as presented in Table 7.

Table 7. Model stability test results

Root	Modulus
0.979041	0.979041
0.056080 - 0.924270i	0.92597
0.056080 + 0.924270i	0.92597
0.789185 - 0.287380i	0.839882
0.789185 + 0.287380i	0.839882
-0.827383	0.827383
0.092820 - 0.744927i	0.750687
0.092820 + 0.744927i	0.750687
0.582234 - 0.443085i	0.731656
0.582234 + 0.443085i	0.731656
-0.698459	0.698459
-0.225063 - 0.477090i	0.527511
-0.225063 + 0.477090i	0.527511
0.003113 - 0.389003i	0.389016
0.003113 + 0.389003i	0.389016

Following Granger causality tests are performed to look for causal relationships or causality tests between endogenous variables in the VAR system. Testing of the cause and effect relationships can occur in one-way or two-way or reciprocal relationships or even no relationship at all (Widarjono, 2013). Granger Causality Test results are presented in Table 8.

Table 8. Granger causality test results

Dependent Variable	BB			
Independent Variable	BB	CA	LN_GDP	r
Prob. F-Statistic		0.4132	1.00E-05***	0.0084***
Dependent Variable	CA			
Independent Variable	BB	CA	LN_GDP	r
Prob. F-Statistic	0.0133**		0.015**	0.0252**
Dependent Variable	LN_GDP			
Independent Variable	BB	CA	LN_GDP	r
Prob. F-Statistic	0.031**	0.0211**		0.0021***
Dependent Variable	r			
Independent Variable	BB	CA	LN_GDP	r
Prob. F-Statistic	0.7102	4.00E-04***	0.1077	

Ket.: ***) signifikan pada taraf 1%. **) signifikan pada taraf 5%

Refer to the Table 8; a significant inter-variable relationship is obtained, marked by the sign *. The result shows that the variables BB, LN_GDP, and R directly affect the CA. The BB, CA, and R variables influence the LN_GDP variable, while the LN_GDP and R.

variables influence the BB variable and the CA influence the R variable only. There is a causal relationship between BB and LN_GDP; CA and LN_GDP; and CA and r, but there is no causality in the relationship between BB and CA, only the BB variable influences CA. The next step is to carry out the Impulse Response Function (IRF) test to track changes from endogenous variables to other variables in the VAR system as presented in [Figure 3](#).

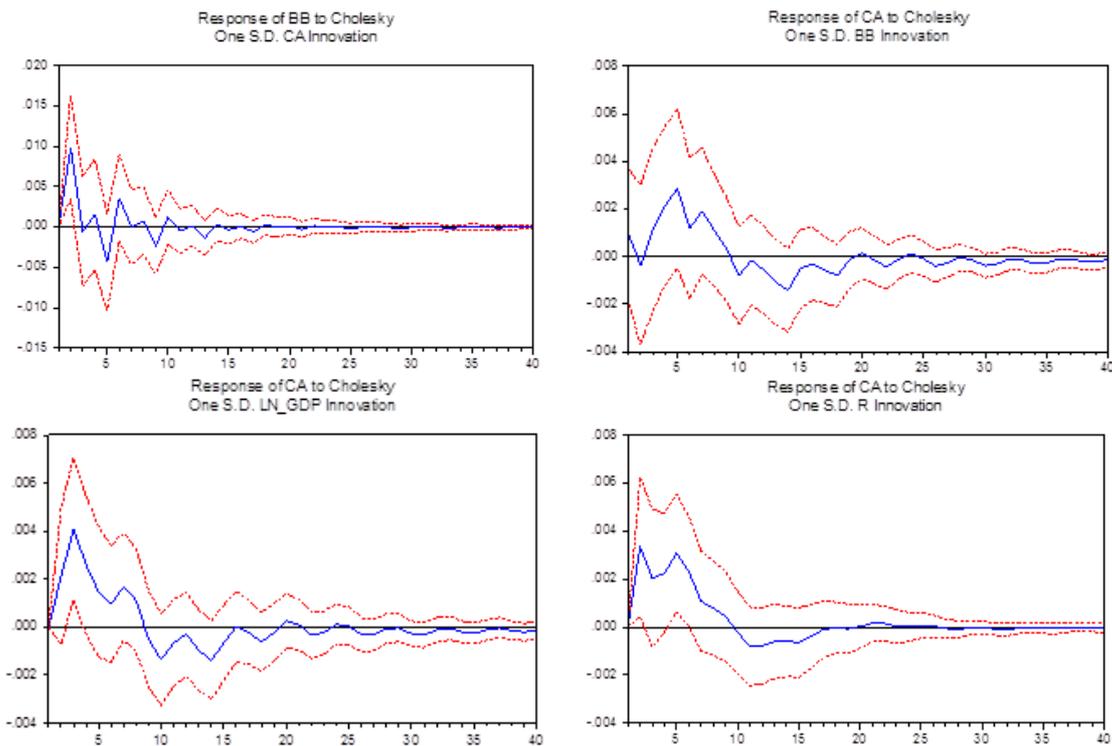


Figure 3. Impulse Response Function (IRF) test results

Based on the IRF test results in [Figure 3](#), the BB response to shock from CA is very dynamic from the 1st to the 15th periods. The fluctuations began to shrink and were not as volatile as the previous period after the 15th period. While the CA's response to shock or shock from BB is quite volatile. Where, in the first to ninth periods, the response from CA was always positive. Then in the 10th period onwards the response from CA becomes negative and begins to shrink and approach zero since the 33rd period.

Based on the IRF test results above, in the 1st to 8th period, CA responds positively to the shock of LN_GDP. While from the 9th period onwards the CA responded negatively and was stable near zero since the 33rd period. Besides, the CA variable responds positively to shocks from the r variable from the 1st period to the 9th period. Whereas in the 10th to 18th periods the response from CA became negative. Then from the 19th period, the CA response began to stabilize near zero. Then the Forecast Error Vector Decomposition (VD) test is performed to predict the contribution of each endogenous variable in the model as presented in [Table 9](#).

Table 9. Forecast error test results Vector Decomposition (VD) Budget Balance (BB), Current Account (CA), LN_GDP, interest rate (r)

Period	Dependent Variable <i>Budget Balance</i> (BB)			
	BB	CA	LN_GDP	r
1	100	0	0	0
4	77.50833	17.25335	1.169072	4.069253
8	75.08411	19.53794	1.256728	4.121224
16	74.13866	19.76223	1.926722	4.172388
20	74.04063	19.74904	2.038637	4.171685
40	73.94192	19.7046	2.18637	4.167111
60	73.93306	19.70257	2.197771	4.166592
Period	Dependent Variabel <i>Current Account</i> (CA)			
	BB	CA	LN_GDP	r
1	0.890105	99.10989	0	0
4	3.723023	70.16645	15.10208	11.00844
8	9.452131	58.50902	15.60338	16.43547
16	10.62356	56.21015	16.82755	16.33875
20	10.96222	55.85486	16.94473	16.23819
40	11.29097	55.47281	17.10853	16.12769
60	11.40634	55.35883	17.14973	16.0851
Period	Dependent Variable LN_GDP			
	BB	CA	LN_GDP	r
1	20.77966	1.34E-05	79.22033	0
4	46.86599	13.44209	39.11208	0.579843
8	41.43203	19.75752	36.92055	1.889896
16	44.51331	17.28778	35.74994	2.44896
20	45.50992	16.91813	35.27881	2.293136
40	47.00636	16.76901	34.15122	2.073415
60	47.39177	16.77759	3.38E+01	2.022921
Period	Dependent Variable r			
	BB	CA	LN_GDP	r
1	9.914873	0.265925	23.25891	66.56029
4	28.36005	11.84514	25.00676	34.78805
8	27.5311	15.78186	23.78227	32.90476
16	29.22026	14.33418	24.73689	31.70866
20	29.1893	14.33339	24.72784	31.74947
40	29.21143	14.35698	24.75655	31.67504
60	29.22318	14.35793	2.48E+01	31.65853

Based on the FEVD test results in Table 9, CA contributed to the BB change of 17.25% in the 4th period. Then it increased to 19.53% in the 8th period and constant at around 19% in the next period. The above results also indicate that the BB variable contributed to CA by 10.62% in the 16th period and was stable at around 11% in the 40th period and beyond. Also, the LN_GDP variable contributed to CA by 10.10% in the 4th period. Then the contribution continued to increase until the 60th period to 17.14% while the interest rate variable (r) contributed to CA by 11.00% in the 4th period and became 16.43% in the 8th period.

The BB variable contributed 20.77% to LN_GDP in the first period. Then it increased to 47.39% in the 60th period. While the CA variable contributed to LN_GDP by

13.40% in the 1st period and the contribution continued to expand to 16.77% in the 60th period. BB's contribution to the interest rate (r) was 28.36% in the first period and continued to grow to 29.22% in the 16th period. Contribution of CA to the variable r was 11.84% in the 4th period. Then in the 8th period to be 15.78% and so on constant at 14%. The LN_GDP variable contributed 23.35% since the first period. The contribution is then constant at 24% since the 16th period.

The government budget deficit has a significant impact on the trade balance deficit, according to the theory and various previous studies (Ahmad & Aworinde, 2015; Epaphra, 2017; Sakyi et al., 2016; Senadza & Aloryito, 2016). The budget deficit is tough to avoid considering the government always implements a comprehensive fiscal policy so that it brings the consequences of new public debt withdrawals. There is a discourse to increase the maximum limit of the ratio of the APBN to GDP deficit from 3% to 5%. The government should use various kinds of infrastructure financing schemes in order to avoid the withdrawal of new and increasingly burdensome debt. All the people should optimize the using of infrastructure that has been built costly in order to encourage exports and reduce the trade balance deficit.

The current account deficit (CAD) does not significantly influence the budget deficit variable in the short run. That is, there is no causality between the two variables. However, in the long run, the trade deficit variable influences the budget deficit variable. Rupiah exchange rate stability must always be maintained so that export potential can continue to be increased, along with the improvement of infrastructure in various regions of Indonesia.

Interest rate (r) is still one of the determinants of Indonesian economic movements. The interest rate has a significant effect on the other three variables. Rising interest rates will cause the production sector to slow down causing exports to decline, in turn, the trade balance deficit will increase (negative CA value) (Ahmad & Aworinde, 2015; Sakyi et al., 2016).

The gross domestic product (GDP) plays a vital role in efforts to reduce the budget deficit and the trade balance deficit. The GDP variable is proven to have a significant effect on both variables. However, unfortunately, economic growth in recent years could not achieve the expectations expressed by President Jokowi during the 2014 presidential campaign. The economic growth targeted at the campaign reaching 7% feels like a fantasy. The Government and the House of Representatives Commission XI agreed on the target or assumption of economic growth on an annual or year-on-year basis (YoY) of 5.2%-5.5% for the discussion of the Draft State Budget (RAPBN) 2020, or slightly lower than the government's proposal at 5.3%-5.6%.

4. Conclusion

The budget deficit and trade balance experienced quite high dynamics in the period of the administration of President SBY to President Jokowi. There was no significant difference in the budget deficit that occurred in the two periods of government. However, the trade balance deficit is significantly different and occurs even more significant in the period of President Jokowi. This fact is allegedly due to the massive development of infrastructure

that has led to an increase in imports of some commodities. Also, oil imports are still a potential cause of Indonesia's trade balance deficit.

The phenomenon of a double deficit (twin deficit) has plagued Indonesia since a few years ago. The budget deficit is believed to be one of the triggers for the trade deficit, in addition to the variable GDP and the interest rate. However, there is no causality between the budget deficit and the trade balance deficit. The twin deficit that lasts a long time will be very detrimental and can spread to various other economic sectors. The government needs to optimize the infrastructure that has been built costly to be able to achieve the target of economic growth. Connecting various infrastructure that has been built is expected to increase production efficiency, which can then increase exports. Finally, the financing of various development projects should not always rely on the State Budget. The involvement of the private sector, both domestic and foreign, needs to be improved.

Authors' Declaration

Authors' contributions and responsibilities

The authors made substantial contributions to the conception and design of the study. The authors took responsibility for data analysis, interpretation and discussion of results. The authors read and approved the final manuscript.

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Availability of data and materials

All data are available from the authors.

Competing interests

The authors declare no competing interest.

Additional information

No additional information from the authors

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