



Jurnal Pertahanan

Media Informasi tentang Kajian dan Strategi Pertahanan yang Mengedepankan *Identity*, *Nationalism* dan *Integrity*
e-ISSN: 2549-9459

<http://jurnal.idu.ac.id/index.php/DefenseJournal>



THE IMPACT OF THE MILITARY EXPENDITURE AND SECURITY EXPENDITURE STRUCTURE ON THE SECURITY STABILITY

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Article Info

Article history:

Received 8 September 2020

Revised 8 October 2020

Accepted 2 December 2020

Keywords:

Defense Expenditure,
Expenditure Structure,
Security Expenditure,
Security Stability

Abstract

The structure of defense spending in Indonesia State Budget consists of three types of spending, which are routine expenditure, goods expenditure, and capital expenditure. It shows the changes in consumption expenditure contribution, direct investment expenditure, and indirect investment from the government. According to The Global Competitiveness Report 2016-2017, Indonesia presents a low level of security stability among 138 countries. Due to the terrorism threat, Indonesia is ranked 115 (Global Competitive Index or GCI=4,2) for business cost, at the 102nd ranking (GCI=3,9) for the business cost caused by crime and violence, and 108th ranking (GCI=4,1) for organized crime. This study aims to examine the impact of military expenditure on security stability in Indonesia. The analytical method used in this study is explanatory, it aims to explain the causal relationship between variables and hypothesis testing. This study employs the time series data with per semester data series through 2000-2018. The research model is formulated as a recursive linear model in the form of a Cobb-Douglas production function and analyzed using multiple linear regression analysis with the Ordinary Least Square method. The result reveals that both military expenditure and security expenditure have impacted simultaneously on security stability. The integration of all components of military expenditure synergistically can increase Security Stability. The components of spending that have a partially significant positive effect on Security Stability are expenditures on goods and capital expenditures.

DOI:

<http://dx.doi.org/10.33172/jp.v6i3.930>

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INTRODUCTION

According to its function, military expenditure is the number of financial

resources dedicated by a state to raising and maintaining the armed forces or other methods essential for defense purposes.

Referring to Suparmoko (2003), according to the designation, military expenditure is the country's spending for national defense. The budget allocation for defense expenditure decreased by 0.6% in 2018, on the contrary, the security budget raised to 5.9% in the same year. Overall, the budget allocation for defense and security increased in 2018 by 2.1%. Based on the Minister of Finance Regulation No. 101/PMK.02/2011 concerning Budget Classification (Law Number 101, 2011). The allocation of defense expenditure is broken down into allocations for national defense, defense support, foreign military assistance, defense research and development, and other defenses. In the spending structure of state ministries and institutions (K/L Expenditures), the budget allocation for defense is a budget allocation for the Ministry of Defense (whose expenditure is divided between the Ministry of Defense and the Indonesia National Armed Forces, that consist of Indonesia Armed Forces Headquarters (Mabes TNI), Indonesia Army (TNI AD), Indonesia Navy (TNI AL), and Indonesia Air Force (TNI AU).

According to its function, security expenditure is government spending that is used to preserve national defense and security (Salawu, 2005). Meanwhile, defense expenditure and security expenditure are part of government expenditure aim to improve economic resilience. Yusgiantoro (2004) argues that the result of defense activity is public goods which non-excludable and non-rivalry. In the long term, the improvements in military expenditure and security expenditure contribution will enhance security stability. In Indonesia, Indonesia Police responsible for the security aspect. Regarding the Minister of Finance Regulation 101/PMK.02/2011 about budget classification, the defense budget is allocated into two groups, namely military expenditure for supporting defense aspect and security expenditure for security aspect that managed by Indonesia Police.

Referring to Hartley & Sandler (1995), in terms of macroeconomics, defense economics is a study of resource allocation, income distribution, economic growth, and stabilization applied to topics related to defense. There are three main actors in economic activity in a country, which are government, companies, and households (Goode, 1984). The contribution of the type of defense spending on security as a measure of the structure of defense spending is in line with the method of measuring the economic structure of Yotopoulos and Nugent (1976). In economic studies, defense economics is a relatively new discipline, started by Hitch and McKean in an article entitled *The Economics of Defense in the Nuclear Age* in 1960, which stated that the problem of national defense is economic (Hartley, 2007).

The structure of military expenditure in the state budget consists of routine expenditure, goods expenditure, and capital expenditure. It shows the changes in the contribution of consumption spending, indirect investment spending, and direct investment expenditure from the government. (Ministry of Finance, 2011). The structure of state spending is increasingly developing towards spending efficiency, especially through savings on routine and goods expenditure (Ministry of Finance, 2011). The larger the economic scale, the number of population will follow with Indonesia's geographical condition, Indonesia responsible to maintain the defense policy to protect the national interest. Referring to the theory of structural change from Chenery (1979), the increasing contribution of military spending will increase security stability. It represents the rise of routine expenditure contribution, goods expenditure, and capital expenditure as a form of a structural transformation of government spending in the military budget. Regarding this, security stability is the output of increased national defense and security capacity, more effective use of resources, and changes in security policies

and strategies (social transformation or defense and security sector) that are more constructive (Chang, 2003). The underlying assumption is that security stability is the goal of carrying out the main duties of the Indonesia Armed Forces in maintaining national defense and security as regulated in law.

Since reforms, the national security system has been built with an approach of citizen and community participation or security sector reform according to Born and Flupi (2006). The formulation of the problem is how the influence of the Defense-Security Expenditure Structure on security stability in Indonesia. Through this research, it is hoped that an effective strategy to improve public welfare based on the contribution of the defense sector can be developed through the transformation of the structure of military spending that can promote increased security stability. Referring to Suparmoko (2003), military spending includes state spending to increase economic strength and resilience.

Ministry of Defense and Indonesia Police are the two biggest ministries or institutions with the biggest budget allocations. Therefore, the rise of defense and security budget allocation along with the minister and institution policy for supporting defense and security stability. Indonesia's government plans to raise the defense allocation to 1,5% of gross domestic to in the long term. This discourse is used to anticipate the higher size of economics in the long term. According to the Ministry of Finance (2018), with the higher economy of scale and the higher population with a large geographical condition, Indonesia needs the right policy of defense and security.

This study tries to examine the impact of military expenditure on security stability in Indonesia. The results of this study are expected to be used as study material for the formulation of development policies for the defense sector in Indonesia, particularly in transforming the structure of government

spending in the military budget that can effectively improve security stability in Indonesia. The formulation of state income and government expenditure is intended to create efficiency through various regarding the use of public funds (Musgrave & Musgrave, 1984).

METHODS

The subject of this research is the Ministry of Defense. This research uses semesterly data from 2000 to 2018 period. The sampling method used was convenience sampling according to the availability of the required research data. The variables used are military expenditure structure (x) and strategic industry growth (y), those data are collected from the Ministry of Defense, the Central Statistic Agency (BPS, 2003), and World Economic Forum (World Economic Forum, 2016).

Besides, the research variables consisted of independent variables and dependent variables. The independent variables are military Expenditure Structure (X) which consists of Routine Expenditure Contribution (X1), Goods Expenditure Contribution (X2), and Capital Expenditure Contribution (X3). the dependent variable is the strategic industry growth (Y). The research design used is an explanatory study or hypothesis testing study which aims to explain and test hypotheses about the relationship between variables.

The statistical analysis technique used in this study is linear regression analysis in the Cobb-Douglas production function model. Regression analysis can capture the pattern of the relationship between one or more causal (exogenous) variables to one consequent (endogenous) variable. All data processing and analysis in this study were carried out with eViews 10 for Windows computer program. The analysis used in testing the hypothesis is regression analysis. The structural equation that shows the causative relationship between variables after logarithmic transformation is as follows:

$$\text{Ln } Y = b_0 + b_1 \text{Ln } X_1 + b_2 \text{Ln } X_2 + b_3 \text{Ln } X_3 + e$$

Information:

X_1, X_2, X_3 = Contribution of Routine, Goods, and Capital Expenditures

$\text{Ln } Y$ = Security Stability

b_0 = constant or intercept ($b_0 = \text{Ln } B_0$ dan B_0 = Total Multi Factor Productivity)

b_i = regression coefficient ($i > 0$)

e = residual or error term

Hypothesis testing

a. F test

The F test is used to test the significance of the simultaneous effect by testing all regression coefficients simultaneously. To determine F table, the level of significance used is 5% with degrees of freedom: $db_1 = (k)$ and $db_2 = (n-k-1)$, where k = the number of causal variables and n = the number of data. The degrees of freedom in statistical tests depend on the number of causal variables and the amount of data used. The research hypothesis about the simultaneous influence is rejected (H_a is rejected or H_o is accepted) if $F \text{ count} > F \text{ table}$, meaning that there is a significant influence of the causal variables simultaneously on the effect variable. On the other hand, the research hypothesis about the existence of a simultaneous effect is accepted (H_a is accepted or H_o is rejected) if $F \text{ count} < F \text{ table}$, meaning that there is no significant effect of the causal variables simultaneously on the effect variable.

b. T-test

The t-test is used to test the significance of partial or individual effects through testing on each or a regression coefficient. To determine the t table, the level of significance used is 5 percent with degrees of freedom $db = (n-k-1)$. The research hypothesis about the existence of partial influence or individual influence is positively accepted (H_a is accepted or H_o is rejected) if $t \text{ count} > t \text{ table}$, meaning that

there is a significant positive effect of the causal variable partially or individually on the effect variable. On the other hand, the research hypothesis about the existence of a partial influence or positive individual influence is rejected (H_a is rejected or H_o is accepted) if $t \text{ count} < t \text{ table}$, meaning that there is no significant positive effect of the causal variable partially or individually on the effect variable.

The research hypothesis about the existence of a partial influence or negative individual influence is accepted (H_a is accepted or H_o is rejected) if $t < -t \text{ table}$, meaning that there is a significant negative effect of the causal variable partially or individually on the effect variable. On the other hand, the research hypothesis about the existence of a partial influence or negative individual influence is rejected (H_a is rejected or H_o is accepted) if $t \text{ count} > -t \text{ table}$, meaning that there is no significant negative effect of the causal variable partially or individually on the variable as a result.

In the regression analysis, the required classical assumption tests are carried out. The assumption tests include normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test. The statistical hypothesis tested for the effect of the military Expenditure Structure on security stability is as follows:

H_o : all $\alpha_{ij} = 0$; meaning that there is no influence from the causal variable on the effect variable.

H_a : there is at least one $\alpha_{ij} \neq 0$; meaning that there is an influence from the causal variable on the effect variable.

The statistical hypothesis tested for the effect of the military expenditure structure on security stability is as follows:

H_o : $\alpha_{ij} \leq 0$; meaning that there is no positive effect of a causal variable on the effect variable.

H_a : $\alpha_{ij} > 0$; it means that there is a positive influence from a causal variable on the effect variable.

RESULT AND DISCUSSION

Assumption Test Results

The results of testing the classical assumptions on the model of the influence of the Military Expenditure Structure on Security Stability shows that the model has met the classical assumptions required, known as normally distributed, there is no multicollinearity situation, autocorrelation, and heteroscedasticity. The consideration of the need to test classic assumptions in the regression analysis model is to avoid bias that makes the regression results cannot estimate well or are BLUE (Best Linear Unbiased Estimator). The classical assumption test results for the above models are described in the following sections. The results of the normality test as shown in the illustration below show that the model residues are normally distributed.

The normality test is performed using the Jarque-Bera statistic to test whether the model residues are normally distributed. The residual model is the difference between the Y_1 observations and the Y_1 predictions of the model. From the test results obtained the Jarque-Bera statistical value $Z = 0.549$ with a probability of error or p -value = 0.760. It appears that the test results are non-significant where the p -value $> (\alpha = 0.05)$. Thus it was decided that the model residues were normally distributed at an error level of 5%. This normal distribution is also indicated by the histogram of the data distribution which tends to form a normal curve (bell-shaped).

Statistical Hypothesis

Ho: $\beta_{ij} \leq 0$; it means that there is no positive effect of a causal variable partially on the effect variable.

Ha: $\beta_{ij} > 0$; it means that there is a positive influence from a causal variable partially on the effect variable.

While the statistical hypothesis test for the effect of Economic Growth on Income Inequality is as follows:

Ho: $\beta_{ij} \geq 0$; it means that there is no negative effect of a causal variable on

the effect variable.

Ha: $\beta_{ij} < 0$; it means that there is a negative effect of a causal variable on the effect variable.

The multicollinearity test was performed using the Variance Inflation Factor or VIF statistics. This value indicates the level of closeness of the relationship between an independent variable and all other independent variables. It is decided that a model does not contain a multicollinearity situation if all VIF values are < 10 . As shown in the illustration below, all independent variables involved in the analyzed model have a VIF value < 10 (VIFX1 = 1.599; VIFX2 = 1.773; and VIFX3 = 2.54).

The results of this analysis indicate that there is no multicollinearity situation. The results of further analysis through observation of the regression model also showed that there was no multicollinearity situation. This is because the results of the partial effect test of each independent variable in the model are consistent with the results of the simultaneous effect test. It can be seen in Table 1 (see Appendix Page). The results of the F test are significant ($p = 0.009$), which indicates that at least one independent variable has a significant spatial effect. The results of the F test are consistent with the results of the t-test, where the variables X2 and X3 have a significant effect ($p = .00495$ and $p = 0.0214$). Thus, it can be concluded that there is no multicollinearity situation in the model.

In the case of a model containing a high multicollinearity situation, Gujarati (2003) suggests observing the resulting regression model to detect whether the multicollinearity situation that occurs is a) favorable, b) ineffective, or c) damaging the model. In cases a) and b), it is acceptable to involve all independent variables that contribute to the multicollinearity situation. In case of c), namely breaking the model, the results of the F test and the results of the t-test will be inconsistent (bias). As described in Chapter III, VIF is calculated

based on the formula:

$$VIF = \frac{1}{1 - R^2}$$

where: $1 - R^2$ = tolerance.

The heteroscedasticity test was carried out using the White method, which measures the correlation between the squares of the model residue and all independent variables. The test results show that there is no heteroscedasticity situation in the model. From the analysis, it was found that the p-value was greater than the significance level $\alpha = 0.05$ or non-significant.

The autocorrelation test was examined using the Durbin-Watson statistic on the model. The test result shows that there is no autocorrelation situation in the model. From the results of the analysis, the Durbin-Watson statistical value is $d = 2,236$. This value lies in the decision area that there is no autocorrelation situation in the model at an error rate of 5%. As referring to Gujarati (Gujarati, 2003) that the value of d which is close to 2 has a low autocorrelation coefficient.

Result of Hypothesis Testing

The results of hypothesis testing regarding the impact of the Military Expenditure Structure on Security Stability can be seen in the regression equation below:

$$\text{Ln } Y = b_{01} + b_{11} \text{Ln } X_1 + b_{21} \text{Ln } X_2 + b_{31} \text{Ln } X_3 + e$$

$$\text{Ln } Y = 0,498 - 3,243 \text{Ln } X_1 + 0,191 \text{Ln } X_2 + 1,745 \text{Ln } X_3 + e$$

(0,828) (-0,382)

$$Y = 1,645 \cdot X_1^{-3,243} \cdot X_2^{0,191} \cdot X_3^{1,745} \cdot u_1$$

(1,645 = $2,72^{0,498}$; antilog natural)

Information:

X_1 = Routine Shopping Contribution

X_2 = Contribution of Goods Expenditure

X_3 = Capital Expenditure Contribution

Y = Security Stability

In the model of the impact of the Military Expenditure Structure on Security Stability above, the trend of changes in the contribution of spending components to security stability shows the trend towards

the effect of the partial contribution of spending components in the logarithmic model. Constants: $b_{01}=0.498$, if the natural logarithm of all causal variables = 0 (zero) then the mathematical value of the natural logarithm of Security Stability is 0.498 units. The regression coefficient for Contribution of Routine Expenditures: $b_{11} = -3,243$; if the Contribution of Routine Expenditures increases by 1 unit, under conditions other factors are constant, then Security Stability tends to decrease by 3.243 units. The regression coefficient for Contribution of Goods Expenditures: $b_{21} = 0.191$; if the Contribution of Goods Expenditures increases by 1 unit, under conditions other factors are constant, then Security Stability tends to increase by 0.191 units. The regression coefficient for Capital Expenditure Contribution: $b_{31} = 1,745$; if the Contribution of Capital Expenditures increases by 1 unit, under conditions other factors are constant, then Security Stability tends to increase by 1.745 units. It appears that the response to changes in Security Stability due to changes in the contribution of spending components varies according to the type of component.

The impact of the military expenditure and security expenditure on security stability is shown by the adjusted coefficient of determination (Adjusted R^2) simultaneously, which is 80.2% with a statistical value- $F = 4.211$. Referring to the multiple correlation coefficient values of $R = 0.896$ (obtained from the root of Adjusted R^2) shows that the simultaneous influence of all expenditure component contributions to Security Stability is strong, according to Guilford, 1956: 145 that with an R -value between 0.70 - 0.90

From the results of the significance test, it is found that F_{count} is greater than $F_{table} = 3.127$ (F_{table} value at 5% error level and degrees of freedom $db_1 = k = 3$, $db_2 = nk - 1 = 34$) which indicates that the military expenditure structure has a significant effect simultaneously on security stability at an error rate of 5%. Thus, H_0 is rejected and the research hypothesis regarding the

simultaneous effect of the military expenditure structure on security stability is accepted. The data examining result also shows the large variation in Security Stability which can be explained by all causal variables simultaneously, namely Adjusted $R^2 = 80.2\%$. The remainder of the variation, 19.8% or $1 - \text{Adjusted } R^2$, is explained by other factors not examined.

Table 2 and Table 3 (see Appendix Page) show the significant test results that show the effect of the contribution of the three components of spending (X) simultaneously on Security Stability (Y). The integration of the three components of spending increases the effectiveness of achieving Security Stability. The strength of the simultaneous influence is indicated by the multiple correlation coefficient R, while the magnitude of the simultaneous effect is shown by the multiple determination coefficient R^2 .

The partial effect of the Contribution of Routine Spending on Security Stability is shown by the regression coefficient $b_{11} = -3.243$ with a statistical value $-t = -0.382$. From the results of the significance test, it is found that t_{count} is smaller than $t_{table} = 1.729$ (t_{table} value at 5% error level of 1-sided test type and degrees of freedom $nk-1 = 34$) which indicates that the Contribution of Routine Spending has no partial positive effect on Security Stability in 5% error rate. Thus, H_0 is accepted and the research hypothesis regarding the partial positive influence of the Contribution of Routine Spending on Security Stability is rejected. Descriptively, the direction of this negative influence shows that the decline in the Contribution of Routine Spending tends to be followed by an increase in Security Stability. However, the effect is not significant. In summary, as in the form of the description above, the effect of the partial contribution of each component of spending to Security Stability is presented in Table 4 (see Appendix Page).

Table 4 shows that the Contribution of Goods Expenditures (X2) and Contribution of Capital Expenditures (X3) has a partially significant positive effect on Security

Stability (Y). While the Contribution of Routine Expenditures (X1) has no partially significant positive effect on Security Stability (Y). However, the effect of the simultaneous contribution of these three components of expenditure is significant. Partially, the Contribution of Goods Expenditures and Contribution of Capital Expenditures have a significant positive effect on Security Stability, while the Contribution of Routine Expenditures has a negative effect, but not significant. The positive impact of the Contribution of Goods Expenditures and Contribution of Capital Expenditures to Security Stability shows that a higher Contribution of Goods Expenditures and Contribution of Capital Expenditures if the contribution of other components of expenditure is constant, it improves the government to produce higher security stability. These results indicate that the Contribution of Goods Expenditures and Contribution of Capital Expenditures play a role in producing a higher Security Stability. Meanwhile, the direction of the insignificant negative influence of the Contribution of Routine Expenditures indicates a decrease in the Contribution of Routine Expenditures in Indonesia in line with the increase in Security Stability as a result of budget transfers from routine expenditures to goods and capital expenditures due to the increased need for procurement and investment for defense and security.

Based on the analysis results, the dominant variables in the model are the Contribution of Capital Expenditure. Contribution of Capital Expenditure is the dominant variable compared to the contribution of other spending components which constructively affects Security Stability. The contribution of capital expenditure has the greatest elasticity (regression coefficient). This shows that the Contribution of Capital Expenditure is the strongest driver in supporting the increase of Security Stability. However, the joint influence implies that an increase in the contribution of all components of spending

that is constructive (leading to a positive effect) is more capable of increasing higher security stability.

Based on the results of the study, as a finding, this study shows that the model of the influence of the factors under study on Security Stability has a very high level of conformity, as reflected in the coefficient of determination. However, in the framework of alternative solutions to increase Security Stability, the results of this modeling still open up opportunities for further research to develop models composed of other factors that are not researched which theoretically also affect Security Stability.

As a solution model for increasing Security Stability, the results of the model test show that efforts to increase Security Stability can be made through efforts to increase the contribution of components of military spending which are proven to have a positive direction together. Budget policies that are relevant in increasing Security Stability are increasing the Contribution of Goods and Capital Expenditures as well as improving the effectiveness of Routine Spending

CONCLUSIONS AND RECOMMENDATION

The results of this study indicate a pattern of structural change that is similar to the results of the Chenery and Syrquin research (Chenery & Srinivasan, 1993). The results of both studies show that the contribution of the industrial and service sectors tends to increase with the increase in per capita income, while the contribution of the primary sector tends to decrease as a consequence of the increased contribution of the industrial and service sectors.

Military expenditure structure consists of the contribution of Routine Expenditures, Goods Expenditures, and Capital Expenditures has a simultaneous effect on Security Stability. The integration of all components of defense-security spending synergistically can increase Security Stability. The components of spending that have a partially significant

positive effect on Security Stability are expenditures on goods and capital expenditures. The increase in the contribution of goods and capital expenditures, by taking into account the linkages between spending components, can improve security stability.

Practical suggestions are to increase the growth of strategic industries, it is suggested for the government to evaluate the defense and security spending budgeting policies, especially the adequacy of allocation, level of priority, and the relationship between the expenditure components.

As academic advice, it is suggested to other researchers to expand the scope of research by involving external factors other than the structure of defense-security spending which theoretically affects the growth of strategic industries.

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Appendix**Table 1.** Multicollinearity Test Results Model of the Influence of Defense-Security Expenditure Structure on Security Stability

Function for	R ²	Tolerance	VIF
X1	0.375	0.625	1.599
X2	0.436	0.564	1.773
X3	0.607	0.393	2.543

Source: Processed by Authors, 2020

Table 1. The Regression Equation Model Influence of Defense-Security Spending Structure on Security Stability

Dependent Variable: Y				
Method: Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.497619	60.10834	0.827871	0.4227
X1	-3.243043	8.479366	-0.382463	0.1203
X2	0.190983	0.077156	2.475300	0.0495
X3	1.745363	0.617852	2.824889	0.0214
R-squared		0.821542	Mean dependent var	2.030175
Adjusted R-squared	0.801867	S.D. dependent var		0.554971
S.E. of regression	0.383747	Akaike info criterion		1.221351
Sum squared resid	1.914398	Schwarz criterion		1.715045
Log likelihood	4.045541	F-statistic		4.211255
Durbin-Watson stat	2.236083	Prob(F-statistic)		0.009254

Source: Processed by Authors, 2020

Table 2. Result of Simultaneous Effect Test on Defense-Security Expenditure Structure against Security Stability

Simultan Influences	R ²	Adjusted R ²	F _{hitung}	p-value
Contribution of All Components of Shopping (X ₁ , X ₂ , X ₃)	82,2%	80,2%	4,211*	0,009*

Description:

$F_{table} = F_{0,05(3,34)} = 3,127$ (F table $\alpha = 5\%$ and $db_1 = k = 3$; $db^2 = n-k-1 = 34$)

R² = multiple coefficient determination,

Adjusted R² = adjusted coefficient determination,

* = significant

Source: Processed by Authors, 2020

Table 3. Result of Partial Effect Test on Defense-Security Expenditure Structure against Security Stability

Partial Influence	b _{ii}	t _{hitung}	p-value
Routine Shopping Contribution (X1)	-3,243	-0,382 ^{ns}	0,1203 ^{ns}
Goods Shopping Contribution (X2)	0,191	2,475*	0,0495*
Capital Expenditure Contribution (X3)	1,745	2,825*	0,0214*

Description:

$t_{tabel} = t_{0,05(34)} = 1,729$ (t-tabel score at $\alpha = 5\%$, one tail, $db = n-k-1 = 34$)

b_{ii} = regression coefficient, ^{ns} = non-significant, * = significant

Source: Processed by Authors, 2020

Table 5. Military Expenditures and Defense-Security Component Contribution in Indonesia Period 2000-2018 (Years Data)

No.	Years	Defense Expenditures			Security Expenditures				Security Expenditures				Contribution of Defense-Security Expenditure Component			
		Routine expenditure	Goods expenditure	Capital expenditure	Total expenditure	Routine expenditure	Goods expenditure	Capital expenditure	Total expenditure	Routine expenditure	Goods expenditures	Capital expenditures	Total expenditures	Routine expenditure	Goods expenditure	Capital expenditures
		(billion Rp)	(billion Rp)	(billion Rp)	(billion Rp)	(billion Rp)	(billion Rp)	(billion Rp)	(billion Rp)	(billion Rp)	(billion Rp)	(billion Rp)	(billion Rp)	(%)	(%)	(%)
		X ₁	X ₂	X ₃												
1	2000	4.764	1.920	5.371	12.054,0	2.249	906	2.536	5.691	7.013	2.826	7.906	17.745	39,5	15,9	44,6
2	2001	6.597	2.673	7.398	16.668,3	3.115	1.262	3.493	7.870	9.711	3.935	10.892	24.538	39,6	16,0	44,4
3	2002	5.688	2.330	6.313	14.330,9	2.685	1.100	2.981	6.766	8.373	3.431	9.293	21.097	39,7	16,3	44,1
4	2003	6.542	2.739	7.111	16.392,1	3.089	1.293	3.357	7.739	9.631	4.032	10.468	24.131	39,9	16,7	43,4
5	2004	7.680	3.351	8.002	19.032,9	3.626	1.582	3.778	8.986	11.306	4.933	11.779	28.019	40,4	17,6	42,0
6	2005	9.529	4.484	9.095	23.108,1	4.499	2.117	4.294	10.910	14.028	6.600	13.390	34.018	41,2	19,4	39,4
7	2006	12.141	6.491	9.598	28.229,2	7.615	4.071	6.020	17.706	19.755	10.562	15.618	45.935	43,0	23,0	34,0
8	2007	14.641	8.060	9.939	32.640,1	9.172	5.049	6.226	20.448	23.813	13.110	16.165	53.088	44,9	24,7	30,4
9	2008	17.764	8.251	6.856	32.871,1	5.764	2.677	2.225	10.666	23.527	10.929	9.081	43.537	54,0	25,1	20,9
10	2009	19.714	8.211	5.672	33.597,6	5.936	2.472	1.708	10.116	25.649	10.684	7.380	43.713	58,7	24,4	16,9
11	2010	24.512	15.042	12.799	52.352,3	4.892	3.002	2.554	10.448	29.404	18.044	15.353	62.800	46,8	28,7	24,4
12	2011	30.373	10.149	17.670	58.192,1	8.062	2.694	4.690	15.447	38.435	12.843	22.361	73.639	52,2	17,4	30,4
13	2012	34.908	11.280	27.918	74.106,4	9.594	3.100	7.673	20.368	44.502	14.381	35.591	94.474	47,1	15,2	37,7
14	2013	37.046	12.848	42.223	92.117,1	10.168	3.527	11.589	25.284	47.214	16.375	53.812	117.401	40,2	13,9	45,8
15	2014	36.948	16.878	32.551	86.376,7	10.437	4.768	9.195	24.400	47.385	21.645	41.746	110.776	42,8	19,5	37,7
16	2015	38.876	26.837	31.222	96.935,7	14.862	10.260	11.936	37.059	53.739	37.097	43.159	133.995	40,1	27,7	32,2
17	2016	41.388	28.423	29.651	99.462,0	33.017	22.674	23.654	79.345	74.406	51.096	53.305	178.807	41,6	28,6	29,8
18	2017	42.229	33.924	31.858	108.011,8	37.151	29.845	28.028	95.024	79.381	63.769	59.886	203.035	39,1	31,4	29,5
19	2018	41.924	35.695	30.064	107.682,4	35.947	30.606	25.778	92.331	77.870	66.301	55.842	200.013	38,9	33,1	27,9

Source: Processed by Authors, 2020

Table 6. Military Expenditure Structure and Security Stability for the Period 2000-2018 (Years Data)

No.	Years	Routine Expenditures	Goods Expenditures	Capital Expenditures	Security Stability
		(%) X ₁	(%) X ₂	(%) X ₃	Index Y ₁
1	2000	39,5	15,9	44,6	3,0
2	2001	39,6	16,0	44,4	3,4
3	2002	39,7	16,3	44,1	3,7
4	2003	39,9	16,7	43,4	4,0
5	2004	40,4	17,6	42,0	4,3
6	2005	41,2	19,4	39,4	4,6
7	2006	43,0	23,0	34,0	5,0
8	2007	44,9	24,7	30,4	5,0
9	2008	54,0	25,1	20,9	5,0
10	2009	58,7	24,4	16,9	4,8
11	2010	46,8	28,7	24,4	4,6
12	2011	52,2	17,4	30,4	4,2
13	2012	47,1	15,2	37,7	4,2
14	2013	40,2	13,9	45,8	4,3
15	2014	42,8	19,5	37,7	4,3
16	2015	40,1	27,7	32,2	4,1
17	2016	41,6	28,6	29,8	4,1
18	2017	39,1	31,4	29,5	4,3
19	2018	38,9	33,1	27,9	5,4

Source: Processed by Authors, 2020

Table 7. Military Expenditure Structure and Security Stability for the Period of 2000-2018 (Semester Data)

No.	Years	Semester	Routine Expenditure	Goods Expenditure	Capital Expenditure	Security Stability
			(%) X ₁	(%) X ₂	(%) X ₃	Index Y ₁
1	2000	I	#REF!	#REF!	#REF!	#REF!
2		II	#REF!	#REF!	#REF!	#REF!
3	2001	I	19,8	8,0	22,2	1,6
4		II	19,8	8,0	22,2	1,7
5	2002	I	19,8	8,1	22,1	1,8
6		II	19,9	8,2	22,0	1,9
7	2003	I	19,9	8,3	21,8	2,0
8		II	20,0	8,4	21,6	2,0
9	2004	I	20,1	8,7	21,2	2,1
10		II	20,2	8,9	20,9	2,2
11	2005	I	20,5	9,5	20,0	2,3
12		II	20,7	9,9	19,3	2,4
13	2006	I	21,3	11,0	17,7	2,4
14		II	21,7	11,9	16,3	2,5
15	2007	I	22,2	12,1	15,7	2,5
16		II	22,7	12,6	14,8	2,5
17	2008	I	25,9	12,5	11,6	2,5
18		II	28,2	12,6	9,2	2,5

19	2009	I	28,8	12,3	8,9	2,4
20		II	29,9	12,1	7,9	2,4
21	2010	I	24,9	13,8	11,3	2,3
22		II	21,9	14,9	13,2	2,3
23	2011	I	25,4	10,1	14,4	2,2
24		II	26,8	7,3	15,9	2,1
25	2012	I	24,2	7,9	17,9	2,1
26		II	22,9	7,3	19,7	2,1
27	2013	I	21,0	7,1	21,9	2,1
28		II	19,2	6,8	23,9	2,1
29	2014	I	21,1	9,1	19,9	2,1
30		II	21,7	10,5	17,8	2,2
31	2015	I	20,4	12,8	16,8	2,1
32		II	19,7	14,9	15,4	2,0
33	2016	I	20,6	14,2	15,2	2,1
34		II	21,0	14,4	14,6	2,1
35	2017	I	19,9	15,3	14,8	2,1
36		II	19,2	16,1	14,7	2,1
37	2018	I	19,5	16,4	14,2	2,6
38		II	19,4	16,8	13,8	2,8
Semester I:			$S_{1t} =$	$0,5*(X_t - ((3/12)*(X_t - X_{t-1})))$		
Semester II:			$S_{2t} =$	$0,5*(X_t + ((3/12)*(X_t - X_{t-1})))$		

Source: Processed by Authors, 2020

Table 8. Military Expenditure Structure and Security Stability for the period 2000-2018
(Semester data, Logaritmic Transformation)

No.	Years	Semester	Routine Expenditure	Goods Expenditure	Capital Expenditure	Security Etability
			(Ln) X ₁	(Ln) X ₂	(Ln) X ₃	(Ln) Y ₁
1	2000	I	#REF!	#REF!	#REF!	#REF!
2		II	#REF!	#REF!	#REF!	#REF!
3	2001	I	2,985	2,080	3,101	0,492
4		II	2,985	2,083	3,099	0,539
5	2002	I	2,987	2,092	3,094	0,585
6		II	2,989	2,099	3,090	0,629
7	2003	I	2,992	2,116	3,081	0,670
8		II	2,995	2,130	3,073	0,710
9	2004	I	3,002	2,162	3,053	0,749
10		II	3,007	2,188	3,037	0,786
11	2005	I	3,021	2,249	2,996	0,822
12		II	3,032	2,295	2,962	0,857
13	2006	I	3,058	2,402	2,872	0,890
14		II	3,078	2,480	2,793	0,922
15	2007	I	3,100	2,496	2,752	0,912
16		II	3,121	2,530	2,693	0,916
17	2008	I	3,253	2,526	2,453	0,919
18		II	3,338	2,534	2,222	0,923
19	2009	I	3,359	2,510	2,190	0,887
20		II	3,398	2,496	2,073	0,864

21	2010	I	3,215	2,627	2,423	0,848
22		II	3,088	2,702	2,578	0,829
23	2011	I	3,236	2,316	2,670	0,771
24		II	3,287	1,989	2,768	0,724
25	2012	I	3,186	2,065	2,886	0,748
26		II	3,132	1,992	2,983	0,748
27	2013	I	3,043	1,965	3,086	0,757
28		II	2,957	1,919	3,175	0,763
29	2014	I	3,048	2,205	2,989	0,764
30		II	3,078	2,348	2,881	0,767
31	2015	I	3,015	2,551	2,821	0,730
32		II	2,982	2,699	2,736	0,706
33	2016	I	3,026	2,652	2,722	0,722
34		II	3,044	2,667	2,681	0,725
35	2017	I	2,989	2,731	2,694	0,746
36		II	2,957	2,776	2,688	0,761
37	2018	I	2,970	2,795	2,650	0,937
38		II	2,968	2,821	2,622	1,043

Source: Processed by Authors, 2020