The Traditional Threat and Its Impact
to National Consumption in Indonesia

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This research would like to see that the traditional threats facing a country will affect its domestic consumption. This study is in Indonesian case, to see the impact of its strategic environment threat on the national consumption. Assuming the natural balance of power, the threat appear not only from military capabilities, but also the economic power of a country. Single equation set up to capture the influence of traditional threats to national consumption. The results showed that the level of threat gives negative impact on consumption. Thus, to maximize consumption, the level of threat needs to be eliminated to a minimum.

Keywords: Consumption, Traditional Threat, Defense Economics

1. INTRODUNCTION

Government will be able to carry out their duties if only the state or national conditions in a secure condition. In addition the security, the country must also produces social welfare, like optimizing consumption. Therefore, security as a form of public service can not stand alone and apart from welfare. Security and welfare are the two things interrelated. Security concerns often be overcome through the efforts of economics, and fulfillment of welfare will be maximum due to security.

One of security problems are the traditional threats from outside the country. Defense costs are needed as an activity that is important in getting the security, to eliminate threats. So far there are two arguments that develop policy of defense spending. It can give a negative or positive effect on the economy. All research are still giving conflicting results, and is still not known for certain whether military spending can support or depress the economy.

Benoit (1978)[1] argues that spending on defense can support the growing demand, increased utilization of the capital cost, the use of resources with lower cost, higher rates of employment, and higher profits. Moreover, the main purpose of the defense budget is to provide security, which is simultaneously expected to have a positive influence on the economy that impact on welfare.

Kennedy (2017)[2] found, the increase in the national defense budget turns out to have no effect on economic growth and gives negative externalities to the private sector. But, non-defense government budgets provide positive externalities to the private sector. This indicates that the non-defense budgets are able to provide a multiplier effect on the economy, but the defense budget has no effect on the economic sectors directly. From another empirical study[3], we found that the effect of increasing defense budget will led to crowding out effect of investment.

So, the defense budget policies must give effect to the national economy. It is important considering the eficiency of defense budget. Thus in this study the effect of defense budget will be reviewed on the welfare, by looking at the correlation between the traditional threat and national income to consumption. The ability of national consumption determine the level of prosperity of a country.

This study is a topic of defense in the field of economics (economic defense). The study was expected to catch the defense budget function in eliminating the threat, viewed scientifically through economics. Economic analysis of defense should be to put together a variety of methods of economics, both theoretically and empirically, that are used in defense issues and policies, as well as view the institutional aspects and characteristics of the defense sector. Thus it would be useful for security and defense policies that impact on the national economy and social welfare. (Sandler and Hartley, 1995)[4].

2. THE TRADITIONAL THREATS

In some social welfare analysis, optimal public consumption is a key indicator of the government's commitment to social welfare. Although it looks like the defense budget does not directly affect the economy and welfare, but there is an important impact for creates a sense of security.

.Security and defense are intimately associated with the threat, especially against external threats, which is a topic of analysis in this study. In the traditional sense, the definition of security is closely linked to the military force. The special characteristic of traditional security threats is coming from outside the country, the actors that threaten is a country. So it requires heavy and modern weapons to deal with it.

The connotation of defense is the ability of the state in the face of traditional threats, which the state must protect its citizens against threats from other countries, especially from their strategic environment. The level of traditional threats faced by a country is different. There are countries that traditionally did physical conflict, there is aggressive, do the arms race, or felt no threat at all. Traditionally, external threat comes from the asymmetrical military power among countries. Nowadays the concept has evolved into a natural balance of power. Natural balance of power is the nation's ideals for peace in the world that still continue to be realized. Natural balance of power is defined as the responsible attitude of a country in enhancing the potential strength in proportion to the relative attention of internationalization and global rights. The system built is expected to create a peaceful economic competition between countries. Within their own country does not happen the competition between dimensions, both economic and military. (Virmani, 2004)[5].

In forming models of threat, especially for conditions that suitable for Indonesia, is to treat this as a potential threat variables or latent. This threat is not just those associated with military power, but also of the strength of the economy that can be physically counted. Leboviq & Ishaq (1987)[6] describes a suitable model for

analyzing these threats by looking at the relative military capability of a country to another country that weighted by the physical quality of the macro indicators of a country. Countries with good economy will certainly be able to buy better weapons, improve human resources and develop cutting-edge technology.

The threat level proxy for relative military capabilities are vary between countries. In accordance with the concept of natural balance of power developed at this time, where the desired competition is a healthy competition in the economy, the asymmetrical balance of the militarization of a country is the potential threats faced by other countries. Military Global Index (GMI) can be used to look at this situation. GMI is an index measuring the strength capacity of weaponry or the level of militarization on the trend of an increase or decrease in a country. This index is published by Bonn International Centre for Conversion Germany (BICC, 2011)[7]. GMI is used as a military capability. In this study used to calculate the external threats from other countries. (Grebe, 2011)[8]

The threat level has a very abstract concept, so we formed an index to make a proxy. Until now still very difficult to determine quantitatively the level of threat. Inspired by Leboviq & Ishaq (1987)[6] which states that the fundamental threat comes from external basic security needs of a country, to translate the threat, we creat the need for security index or security need index (SNI). Potential threats or SNI country i is a function of the relative capability of his country. The index perception of potential threats to the security needs are reflected in its security needs index. SNI (security neds index) can be proxied by the way:

$$RC_i = \left(\frac{cap_i}{\frac{\sum (cap_j / geog_{ij})}{n-1}} \right) \longrightarrow SNI_i = \left(\frac{\sum (RC_j / geog_{ij})}{n-1} \right)$$

(1)

Where RC is relative capability of a country. RC_i is a function of military capability (cap) relative to his opponent states (state j), geog is the distance between the capital of two states, (n-1) is the number of states in the strategic environment, and military capabilities is reflected in the magnitude of its Global Military Index (GMI).

3. THE RELATIONSHIP OF TRADITIONAL THREATS AND NATIONAL CONSUMPTION

In facing modern threats now, always be associated with a military force that is proportional to a country's economy. The level of a country militarization, which is too high and out of proportion with the ability of economies, perceived as a threat to countries in the vicinity. Instead strength in the economy with healthy competition, is expected as a national power. Who owns the defense along with the strong economy, was the one who could control the international relations in the strategic environment.

Defense interact with the economy through state protection against threats, it is very costly. Of course, the huge costs should not be wasted and must have an effect on social welfare. For that, to be seen the defense budget could affect national welfare through optimal consumption. To view the transmission between the defense budget to consumption, is through a variable of threat that eliminated by increasing budget. With the sense of secure, economy can work optimally. If it increases, will create all economic actors work with insecurity and not comfortable, so give the effect on the amount of goods/services that can be consumed.

In this study, we will be answered how the influence of traditional threats to national consumption. The frame of mind the relationship between traditional threats with the consumption of these, can be seen in figure 1 below:
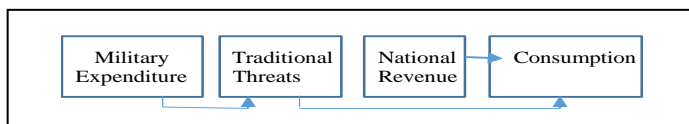

Fig 1. Framework of The Relationship of Traditional Threats and National Income to Consumption

Consumption model is built from the welfare model based on the modification of the standard neoclassical model developed by Ron Smith (1995)[9]. Welfare function is determined by the views of policy makers assuming rational way. Welfare objective function can be simply illustrated that the aggregate amount of welfare (W) is a function of security (S), and the output of civilian (C). Defense is a public good, and even though consumption is not a public good, but per capita consumption is of particular interest to see the level of social welfare. Thus, in a simple welfare function can be written as follows: $W = W (S,C)$ (2)

Security can not be treated as an objective scale, but subjectively, based on the perception of freedom from the threat of attack. Security is manufactured from military spending depends on the level of the threat of strategic environment. Such as utility or welfare, security is economic data that is not observable and should be replaced with other data quantification. This security function is formed by simple functions, namely: $S = S (M, H)$ (3)

Where M is the volume of military spending, and E is the threat level of the strategic environment. Finally, the total output is made up of civilian and military expenditures activity, which is an exogenous variable.

Based on the assumption of a linear budget constraints, the budget constraint is simply expressed as:

$$Y = p_c C + p_m M$$ (4)

Where Y is aggregate demand, whereas p_m and p_c showing deflator price relative to earnings.

The fundamental question for the model is the selection of budget constraints. Using view of Smith (1995)[9], the form of the budget constraint functions are linear expenditure system, that shows the effects of military spending and consumption. Welfare objective function using constant elasticity of substitution form of welfare function. That is assuming the functions homotetik homogeneous by constant elasticity. Forms of welfare functions of the Stone-Geary is a monotonic transformation of a non-linear function Cobb Douglas. Cobb Douglas selected for output elasticity of substitution between civilian and security, because it is easier to interpret and for some specific purposes. Thus, the formal models used are a form of Cobb-Douglas $W = C^\alpha . S^{1-\alpha}$, that monotonic transformed into:

$$W = \alpha \log(C) + (1-\alpha) \log(S)$$ (5)

To illustrate the security, we assumed the state is not aggressive but prepare to face threatening neighbor on the strategic environment (H), then security is the difference between military spending real, M, and the minimal military budget, M*. Minimal military budget is assumed as a linear equation where the intercept is a strategic military reserve. The slope is military budgets effectiveness facing threat of the strategic environment. Security equation can be formed as follows:

$$S = M - M* = M - (\beta_0 + \beta_1 . H)$$ (6)

M* shows, partly a fixed element (β_0) that has nothing to do with the strength of the opponent, but it is a military reserve to face opponents attack. The other part is as the effectiveness of military spending in the face of the threat. The variable of M and M* are what plays a role in maintaining optimal security.

Thus, the formal shape of the whole model can be written as follows:

$$Max \quad W = \alpha \log(C) + (1-\alpha) \log(S)$$

$$subject\ to \quad Y = p_c . C + p_m . M$$

$$S = M - M* = M - (\beta_0 + \beta_1 . H)$$ (7)

By using the objective function and constraints as above, the Lagrangean function becomes:

$$L = \alpha \log(C) + (1-\alpha) \log(M - M*) + \lambda(Y - p_c C - p_m M)$$ (8)

First order conditions are:

$$\frac{\partial L}{\partial C} = \frac{\alpha}{C} - \lambda p_c = 0 \Leftrightarrow C = \frac{\alpha}{\lambda.p_c} \tag{9}$$

$$\frac{\partial L}{\partial S} = \frac{1-\alpha}{M-M*} - \lambda p_m = 0 \Leftrightarrow M = \frac{1-\alpha}{\lambda.p_m} + M* \tag{10}$$

$$\frac{\partial L}{\partial \lambda} = Y - p_c C - p_m M = 0 \tag{11}$$

By combining the equation, it becomes:

$$Y - p_c.\frac{\alpha}{\lambda.p_c} - p_m(\frac{1-\alpha}{\lambda.p_m} + M*) = 0 \tag{12}$$

obtained: $\quad \dfrac{1}{\lambda} = Y - p_m M* \tag{13}$

which is used to eliminate lagrange multiplier,. Now, we can provide welfare optimize consumption equation, namely:

$$C* = \frac{\alpha}{p_c}[Y - p_m(\beta_0 + \beta_1.H)] \tag{14}$$

Or, we can be modify by:

$$consr_t^* = a(1) + a(2)*gdpr_t - a(3)*sni_t + \varepsilon_{at} \tag{15}$$

Where $consr_t*$ is the optimal real domestic consumption in period t, $gdpr_t$ is real gross domestic income in period t, and sni_t is the level of traditional threats in period t.

4. DATAS

Indonesia dealing with countries on the border, so it needs to be calculated relative to the capabilities of the countries in the strategic environment. Global Military Index (GMI) can be proxied as capability index relative who owned a country.

Based on the method of calculation of the relative capabilities of Leboviq & Isaac (1987)[6], established an index of relative capability of each country bordering Indonesia. From the relative capabilities of the index formed a State or security threats need index (SNI). Security need index for Indonesia can be seen in figure 2 below:
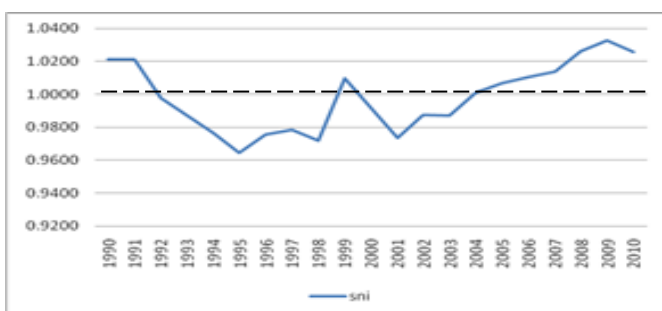
Fig 2. Threats (SNI) that Faced by Indonesia. Source: Data Processing

This study will be answered how the influence of traditional threats to the national consumption. The data is used to analyze the time series in the period of year 1990 until 2010. The movement of the data, consumption and gross domestic product (GDP), can be seen respectively in the figure 3 below:
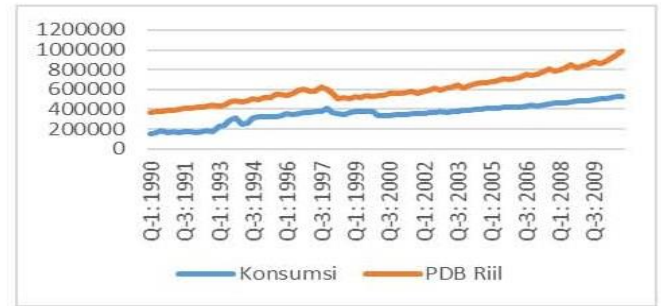
Fig 3. Number of Consumption (Konsumsi) and Real GDP (PDB Riil). Source: Data Processing.

5. RESULTS

Based on the variables data of traditional threats (SNI) and the level of national income (Real GDP), is analyzed if they influence the national consumption. Regression analysis was performed on a single model that has been tested by Granger causality test. Causality test gives results that among the variables involved did not give each other a causal relationship, so that the estimation can do. The Estimate using ordinary least square method, in which the model has met the classical test of autoregresive and heteroscedasticity. To view the sensitivity of the variables that affect consumption, we also analyzed the elasticity. From the regression obtained the following results:

Table 1: Effect of Traditional Threats (SNI) on Consumption

(1990-2010)

Parameter	Coefficient	St.Error	Significant
Constant	4233723	1192578	0,01
Real GDP	0,6879**	0,063919	0,01
SNI	-4492497**	1300195	0,01
Dummy	-2,57796	172469,6	0,15
R^2	0,6354		
Prob F	0,000531		
DW	2,20		

Note: ** Statistically significant at 0:01 level

The existence of a dummy variable is used to distinguish the behavior of the defense budget model, when the transition period the defense budget and the separation of police budget in Indonesia (2000-2004).

Multiplier Effect	Elasticity (10)	Elasticity (5)
dcons/dgdp =0,770444	E (10) = 1,1536	E (5) = 1,1765
dcons/dsni =-4412220	E(10)=-2,3297	E (5) =-2,0964

E (10) an average elasticity of the last ten years (2001 to 2010); E (5) an average elasticity last five years (2006 to 2010).

Source: Results of Data Processing.

6. CONCLUSIONS

In testing the model, we found that the rate of traditional threats affect consumption significantly. Increased threat level will reduce consumption, and vice versa. This illustrates that needs to be eliminate traditional threats to influence the national consumption increasingly. The traditional threats must be offset by an increase in the defense budget. The transmission that affect the social welfare, especially consumption, is through defense programs in to eliminate the traditional threats. Thus, all economic actors can perform their economic activities optimally.

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