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THE ROLE OF DEFENSE ECONOMIC IN ECONOMIC GROWTH

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Abstract

The fundamental problems in economic development in Indonesia are the low level of welfare, unsustainable economic growth, and the inadequate development process of economic sectors. Defense economics is a branch of science that applies economics to national defense issues. Defense economics as a multidisciplinary study discusses resource allocation, income distribution, economic growth, and political stability as applied to topics related to defense. According to the defense economy, the impact of the use of the defense budget on the economy can be viewed from the demand or consumption and supply or production approaches. From the consumption side, the defense can protect national resources against various threats, so that national consumption becomes stable and even increases. This research uses role theory according to Biddle and Thomas, among others, Expectation, Norm, Performance, and Evaluation. The research objective is to provide government input on the importance of the economic role of defense in economic growth in Indonesia. Research using qualitative methods is aimed at understanding social phenomena from the perspective of the participants. The result that has been achieved is that the defense economy plays a role in improving security stability, so it is recommended that the government pay attention to defense-security spending budgeting, in particular the adequacy of its allocation, priority level, and linkages between other components.

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INTRODUCTION

In improving welfare, high economic growth is needed, as well as being sustainable. It is hoped that long-term economic development can bring about fundamental changes in the economic structure that trigger economic growth.

Lewis argues that development can be expressed as a transition or change from traditional to modern forms of production and economic behavior (Gurley, 1981). Lewis identifies that economic growth, as a result of the transition to forms of production and economic behavior, can be

achieved through the formation and increase of agricultural surpluses, strengthening the exchange rate, and increasing savings (Behrman & Srinivasan, 1995). In his Dual Economy theory, Lewis explains that the change from traditional to modern economic behavior is based on differences in production methods (Gurley, 1981). In this Dual Economy model, Lewis analyzes the development process through the interaction between the agricultural sector, which represents the traditional sector, and the industrial sector, which represents the modern sector. Each sector has different behavior in principle. Traditional sector behavior is based on classical economics, while modern sector behavior is based on neoclassical economics (Herdt, 2003).

Economic growth as a process of increasing output from time to time is an important indicator to measure the success of a country's development (Ditimi & Matthew I, 2015). Therefore, it is interesting to identify the various factors that influence it, including the role of government, to be studied more deeply. According to the basic theory of Neoclassical economic growth, there is no influence of the role of the government on growth, both in the form of expenditures and taxes (Kneller, Bleaney, & Gemmill, 1999).

Government spending as a tangible form of government interference in the economy has become an important object for research. Research on countries in Asia was carried out by Cheng & Lai (1997) with the Vector Autoregressive (VAR) approach, Cheng proves that there is a significant positive influence between government spending on economic growth in South Korea. Other studies that also show that the expansion of government spending has a positive effect on economic growth, among others, were found by Singh & Sahni (1984). On the other hand, there is also research that shows the significance of the relationship between the two variables, but with a pattern of relationships that tend to

be negative. This research was carried out by Landau (1983) and Miller & Russek (1997). It is believed that there is a relationship between defense spending and the economy. In reality, there are varying effects for each country when the defense budget deals with the economy. However, from the studies of economists, there is still no convincing opinion from the empirical tests that have been carried out. For example, Kennedy, et al (2016) tested whether the national defense budget can stimulate investment, it turns out that empirical results show that Indonesia's defense budget still has a crowding-out effect on investment, where there are many other opinions from different studies.

The channel that can be used by the government to influence the economy, especially economic growth, is through fiscal policy. The state can play a role through direct investment funding through efficient provision of public services to encourage economic activity and stimulate long-term investment. Defense spending, a government policy, is expected to have a positive effect on the economy. Brasoveanu (2010) describes the shape of the channel in the economy which is affected by defense spending. These channels include research and development in the defense sector. Research and development in the defense sector can have a positive influence through externalities on the economy from the private sector. Military research and defense spending can stimulate technological innovations.

The efficiency of resource allocation. If military spending is not managed through market mechanisms, it is likely to cause distortions in relative prices. The implementation of policies to support military programs may disrupt resource allocation and economic growth. The increased political power of the military. Defense spending may not come from the need for security, but because of rent-seeking from a complex military industry, so that it can increase the military's arsenal and posture which exceeds its share and can

lead to an arms race or war.

Many of these effects occur at once, depending on the level of their utility and the externalities of defense spending and effectiveness in dealing with threats. Through these specific channels, defense spending has an effect on economic growth which can be seen from two sides, namely the supply side and the demand side. Through a supply-side approach, the channel that can explain the effect of military spending on economic output is through the availability of production factors, be it labor, capital (both physical and human resources), and technology which together affect potential economic output. This theory assumes that real per capita output and capital stock growth will remain at a constant level in a certain period even though there are short-term fluctuations. It is also assumed that an increase in labor and capital at a steady level will also increase its aggregate output at a steady level (Solow, 1957). Then changes in aggregate output can be explained by changes in capital and labor.

West & Farr (1990) states, due to defense spending, there will be effects in the economy that have an impact on a great output from the supply side, which can be explained through neoclassical theory. If a resource-allocation effect appears that causes investment becomes crowd-out, there will be a decrease in aggregate output growth. The neoclassical model explains that the growth rate is a function of capital growth. So, when this effect appears, the transmission that occurs will reduce capital growth and is followed by a decrease in the growth rate of aggregate output.

The purpose of this study is to provide government input on the importance of the role of the defense economy in economic growth in Indonesia. Thus, it is hoped that the defense economy can play a role in increasing security stability by paying attention to defense-security spending budgeting, in particular the adequacy of allocations, priority levels, and interrelationships among others.

METHODS

This study uses descriptive qualitative methods and aims to describe a particular group of people or a description of a symptom or a relationship between two or more symptoms. Data collection techniques in this study using interview and documentation methods. Interviews were conducted with the Ministry of Defense and the Ministry of Finance. Denzin distinguishes four kinds of triangulation as a technique for checking the validity of the data that utilizes sources, methods, investigators, and theory (Robbins, 2001).

Data analysis in this article is carried out through, (1) data reduction by summarizing, sorting out the main data, then focusing and arranging the data systematically, (2) data display, which is presenting certain data in the form of matrices, graphs, charts, or networks if necessary, (3) data verification, namely by looking for patterns, themes of relationships and comparative equations and then making conclusions.

According to Sarwono (1999) indicators of behavior with roles, namely:

1. Expectation. Expectations about the role are the expectations of others about appropriate behavior.
2. A norm is a form of hope. Types of expectations according to Secord & Backman are as follows:
 - a. Predictive expectations, namely expectations about behavior that will occur.
 - b. Prescribed role expectations are requirements that accompany a role.
 - c. Performance is the form of behavior in a role. Roles are manifested in real behavior, not just expectations.
 - d. Evaluation and sanction. Role assessment is giving a positive or negative impression based on the community's expectations of the role. Whereas sanctions are people's efforts to maintain a positive value or so that the role manifestation is changed in such a way that what was previously considered negative

becomes positive. Assessment and sanctions according to Biddle and Thomas can come from other people and from within oneself (Sarwono, 1999).

Infrastructure development in Papua is carried out by the Indonesian National Armed Forces (TNI). The construction of 4325 km of forest-covered Trans Papua roads and security threats are major obstacles. A trained engineer unit can do this well, which civilian agencies cannot afford. In addition to eliminating threats, defense programs must also be able to provide a multiplier effect on the welfare of the community, as has been done by the Indonesian National Armed Forces in assisting infrastructure development in Papua. This shows an example that a productive defense program can boost the economy and welfare in a region, where the private sector cannot or dare to enter due to various constraints in the region (Kennedy, 2018).

The results of defense activities are purely public goods because they are non-exclusive and non-rival, so the provision is made by the state. In the provision of defense products, the state must do it effectively and efficiently. This is due to the limited national resources owned by the state, and many other goals that must be fulfilled by the state, such as education, health, and infrastructure development services, while on the other hand, defense is always confronted with the doctrine of *Si Vis Pacem Para Bellum* (if you want peace, prepare for war). These considerations are the basis for the urgency of including defense economy material in economic learning in the era of the industrial revolution 4.0 (Susdarwono, 2020).

The existence of a strong domestic defense industry can also save the country's foreign exchange. If we see, from year to year Indonesia's defense budget has always increased. The potential for an increase in the defense budget is predicted to continue in the coming years. With the defense budget that continues to increase, it is of

course very unfortunate if our country's money will flow to other countries for the needs of defense equipment. If the domestic defense industry has developed independently, most of the state's money can be spent domestically, thus helping economic growth in the country itself (Karim, 2011).

In economic theory, defense is often a classic example of pure public good. With its non-excludable and non-rivalry character, the defense can only be provided by the government. Therefore, in market analysis, we can easily divide the defense sector into two sides, namely supply or demand, whose role is played by the defense industry, and demand, which comes from the government as a defense operator (Karim, 2011). The static analysis looks at the problem of defense based on a certain period using a cross-sectional approach, while dynamic analysis looks at the time frame using times series that affect various defense variables. The depiction of economic reasoning uses more of a qualitative approach using two-dimensional or three-dimensional graphs to illustrate theoretical relationships. At a higher level, Paul Samuelson (1948), author of the Foundations of Economic Analysis, uses a mathematical (quantitative) method to demonstrate his theory, specifically regarding behavior, namely minimizing or maximizing actors in achieving balance (Yusgiantoro, 2014).

RESULT AND DISCUSSION

Based on the resources allocation process, Indonesia already has the perception of allocating its economic resources for defense. This has been previously explained through the Medium Term Development Policy by giving priority to minimum essential force (MEF). In terms of budget allocation, Indonesia is still relatively small compared to other countries in the same region. With a narrow budget allocation, the choices in choosing defense equipment, especially those that are strategic, are limited. The option of

purchasing new goods downgrades or second-hand purchases is a solution in the procurement of Indonesian defense equipment. Indonesia's defense strategy is the development of a minimum force to support the national military doctrine and national goals, in this case, the strategy of universal warfare and the world's maritime axis. This strategy, of course, requires Indonesia's defense budget, although below the optimal figure for a country it is quite good in fulfilling its defense needs partially, even though the area that must be covered is still not optimal.

This is supported by the initial foundation of the Krida Yudha revolution. The economic, political, and bureaucratic reform to support the national defense economy which will later develop the domestic defense industry and the Indonesian military capacity in 2024. Indonesia's military objective continue to exist and calculated to be a country with secure sovereignty in the region and orientation in securing economic resources, especially in the maritime and maritime areas. 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 (Saputro, Mahroza, & Tarigan, 2020).

During the last 15 years, the development of Indonesia's defense economy has been stagnant and slow, this is because the defense budget is still below the ideal limit of a country's defense budget by 1% of the total value of its GDP (Gross Domestic Product). According to SIPRI (Stockholm International Peace Research Institute) data, Indonesia's defense budget during 2006-2021 is still in the range of 0.7% - 0.9% of the value of Indonesia's GDP. Security Defense spending can power the economy because it provides security to maintain stability in the business environment and maintains comfortable conditions to attract foreign investors. The

existence of security also maintains respect for property rights and the dynamics of the market to encourage growth in the current global system. Recognizing that defense spending increases security, the defense will stimulate growth.

The positive effect of defense spending can occur through an increase in aggregate demand (Keynesian effect). Increased demand plays an important role in increasing the utilization of idle capital, reducing the unemployment rate, and increasing profits to encourage higher investment, all of which lead to economic growth. Defense spending is also recognized as a fiscal policy tool to increase demand stimulation or reduce demand constraints. This effect depends on the multiplier effect, if it is assumed that there is no reciprocal relationship between the increase in taxes and financing for government spending, and there is no crowding-out effect due to this expenditure.

Defense spending may increase the skills of a portion of the population through training and education for members of the military. So that it has a stimulating effect on growth if it can move the economy towards full employment, build human resources, maintain stability, and provide infrastructure. Capital expenditures can provide productive uses, such as use to the private sector of transportation networks originally built for military purposes. Investments in the defense sector drive positive externalities to the private sector, such as public infrastructure development, spillovers from technology, and human resource formation.

Military spending can have a detrimental effect on economic growth by crowding out the private sector. The large defense expenditure distorts the allocation of resources and the separation of resources from productive activities due to the accumulation of weapons and an increase in military power. Military spending can be detrimental because it impacts investment, savings, human resources, and infrastructure programs. Expansion and

crowding out forms of increased defense spending (Friyadie, 2016).

According to Sinta, indicators of behavior with roles, namely expectation. Expectations about roles are expectations of other people about appropriate behavior, which should be shown by someone who has a certain role (Sarwono, 1999). Goods and services produced by defense activities are a sense of security from threats that arise. Thus, the defense economy is a science to find the best way of allocating various national resources to meet the need for a sense of security from threats. In its development, threats to a country do not only come from abroad, such as threats from neighboring countries, groups of allied countries, or international terrorists; but also threats from within the country such as separatism and terrorism. Threats from within the country are often part of security activities that fall into the category of national order security (*Kamtibnas*), not state defense (Yusgiantoro, 2014).

There are four components of defense economic. First, defense culture and strategy related to the development, use, and development of the national defense force. Second, defense planning related to the development of deterrent power to prevent threats. Third, the defense industry related to the production of defense equipment to generate added value and a multiplier effect in the economy. Fourth, the calculation of optimization in the use of resources. The defense economy has a broad scope not only limited to these four components, but also concerns issues of conflict, defense cooperation, international trade, financing, and defense procurement.

The main components can still be detailed which allows the development of a defense economy to reflect current issues faced by society or a country. As an example of the development of non-traditional conflicts including terrorism, the use of CBRN-E (Chemical, Biology, Radiation, Nuclear, and Explosive) and cyber will widen the scope of the defense economy (Yusgiantoro, 2014).

The second indicator according to Biddle and Thomas in Sarwono (2015), is a norm which is a form of hope. Defense economics is a branch of science that applies economics to national defense issues. Like development economics, natural resource economics, political economy, and environmental economics, defense economics applies economics that has been used deep into certain fields, in this case, national defense. The main role of the defense economy is the achievement of effectiveness and efficiency in every process that occurs in the discussion of defense. Effectiveness is a measure of the level of fulfillment of output in a process to achieve the ideal output goal. The higher the achievement of the goals of a process, the more effective the process is said to be. A more effective process is achieved by improving the process so that it is more precise or safer. The ratio is the same as efficiency, ranging from zero to one hundred percent (0-100%). Efficiency is a measure that shows the ratio between the resources used as input of a process and the output produced. A process is said to be more efficient if fewer resources are used to produce a certain output than other processes. A more efficient process is achieved by improving the process so that it is faster or requires less input (Yusgiantoro, 2014).

In general, economic terms, efficiency is often used in terms of economics, and economic prices are the most efficient in a system. An efficient state occurs when a balance is reached between the needs of consumers and supplies from producers, expressed by the equilibrium price (P_e) and the equilibrium quantity (Q_e) in the S-D graph. With the input-output approach, the efficiency measure is expressed in the amount of output divided by the amount of input. The ratio ranges from zero to one hundred percent (0-100%) (Yusgiantoro, 2014). Various events in the 1980s to early 2010s have made the role of the defense economy increasingly developed, especially regarding the allocation of

resources and economic applications for various security-related issues, as follows: First, the reduction of the military budget in the first half of the 1990s raised some new economic challenges. Lower budgets and rising arms costs have forced many governments to increase efficiency in weapons acquisition and the formation of defense forces. Second, conflicts over the struggle for scarce natural resources, such as petroleum, other types of mining, and plantations can arise in various regions. Conflicts like this usually occur because of the presence of natural resources in the border area between two or more neighboring countries. Managing jointly in border areas (joint operating areas) to obtain fast economic rents while continuing border negotiations is one of the principles of defense economics that is often carried out by many countries. Third, a cohesive defense agreement has implications for the disarmament/destruction of weapons which will cause other problems, such as costs for cleaning up the environment, costs for verifying annihilation, and development of conventional alternative weapons. Both peace and war resulted in greater costs not only in the form of financial costs (tangible, out-of-pocket expenditure) but also economic costs (intangible, opportunity loss).

International agreements always have to consider various aspects, including considerations from the economic point of view of defense, which are essential. The principles of absolute advantage, comparative advantage, and competitive advantage must be considered in the development of defense cooperation, including the impacts and barriers to cooperation that will be built. Fourth, both traditional and non-traditional conflicts in the form of social conflicts, terrorism, and armed movements, often cause emergencies that cause problems of allocation and distribution. The provision of defense forces is an activity that requires a large allocation of resources to prepare deterrence to various emergencies and

uncertainties. These various developments have made defense economics increasingly important, and become a hope for the formulation of quality defense policies. Fifth, the use of economics in the defense sector initially uses qualitative analysis. Initially, economics did not use a lot of quantitative approaches in its application, so that economics is known as a social science.

The third indicator, according to Sarwono (1999), is performance (the form of the actor). Starting from economics as a social science that analyzes the production, distribution, and consumption of goods and services, the role of economics is how economic actors act or interact and how an economy works. About this role, economics is also defined as knowledge that studies behavior, be it the behavior of humans, companies, or the state that connects desires and scarce resources, which have different uses. Economic analysis in defense economics can use a static or dynamic approach. The static analysis looks at the problem of defense based on a certain period using a cross-sectional approach, while dynamic analysis looks at the time frame using times series that affect various defense variables. The depiction of economic reasoning uses more of a qualitative approach by using two-dimensional or three-dimensional graphs to illustrate theoretical relationships. At a higher level, Paul Samuelson, author of the *Foundations of Economic Analysis* (Samuelson, 1948), uses a mathematical (quantitative) method to demonstrate his theory, specifically regarding behavior, namely minimizing or maximizing actors in achieving balance. (Yusgiantoro, 2014).

Determining the size of the defense budget is a mystery or, to some degree, a puzzle in the policy formulation process. The Study of International Relations tries to unmask this mystery through a classic policy, namely a national security strategy, which includes determining the defense budget and the main weaponry system which is determined by the threat

perception of the country concerned.

This classic wisdom has not completely opened the veil of mystery. Perception is a subjective assessment in determining conditions that might occur. The assessment assumes the existence of a predictable future condition, although not always of high precision. Problems arise in the degree of precision because inaccurate predictions will have fatal consequences in determining the national security strategy. To minimize this risk, the typical attitude that emerges in today's conditions is a scenario of pessimism that in the future, threats will be more dangerous and have a higher intensity (terrorism, biological weapons, etc.) as one of the tendencies. However, skepticism contains a philosophical problem, humans cannot predict the future, then how can humans predict that threats will be more dangerous and have higher intensity in the future (Emmerson, 2012).

Military spending and security spending have a simultaneous impact on security stability. The synergy of all components of military spending 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 (Saputro et al., 2020). The mouth of the puzzle is a geopolitical calculation in which each country determines its threat perception which will then try to be confirmed by looking at the behavior of other countries. North Korea, for example, is estimated to have a large defense budget that takes up nearly half of the total national budget, in preparation for dealing with the United States, South Korea, and Japan. Indonesia has different geopolitical calculations. As stated in the 2008 Defense White Paper, traditional security threats in the form of aggression or annexation against Indonesia are unlikely to occur in the Indonesian Defense White Paper (2008). The Indonesian government sees more non-traditional security threats, such as terrorism, people smuggling, and weapons,

as a more real threat to disrupt Indonesia's sovereignty in the future. When viewed from the perspective of national security, the threat of aggression (as perceived by North Korea) and terrorism (Indonesia) is not a threat spectrum (there are gradations or tiered levels of threats). Aggression and terrorism are both threats to national security. However, when viewed from the point of view of probability and calculation of damage, aggression and terrorism are two different threats.

The fourth indicator according to Sarwono (2016) is evaluation. Role assessment is giving a positive or negative impression based on community expectations of the role. The democratization of the defense economy is part of the great narrative of Security Sector Reform. SSR in Indonesia is an advocacy agenda and discourse among civil society organizations (CSOs) to overhaul the management of Indonesia's post-New Order security sector so that it is in line with democratic principles. When the New Order was still in power and at the beginning of the reformation, advocacy efforts and conveying aspirations to organize military and police institutions, especially evaluating the dual function of The Indonesian National Armed Forces, were carried out but did not produce satisfactory results due to the government's status quo. It was only after Suharto stepped down as president that the discourse of reforming the security sector or SSR found good momentum and received support from the public, as well as stakeholders in executive and legislative bodies.

The results show that security stability, strategic industrial growth, and macroeconomic stability simultaneously influence economic growth (Saputro & Meirinaldi, 2019). The Security Sector Reform, as written by Ikrar Nusa Bhakti, is a holistic concept of reform in the security sector, starting from actors, disciplines, and activities; move within democratic principles and norms; as well as the ultimate goal of establishing an integrative,

democratic and humanist national security system. Based on this definition, Security Sector Reform in Indonesia, as occurs in other countries, is a process to inject the principles of accountability and transparency in all aspects of the management of the security sector, which includes although not limited to military, the police, and intelligence institutions.

Partially, macroeconomic stability is more influenced by the significant positive effect of strategic industry growth than security stability. Increasing the growth of strategic industries supported by the role of more effective security stability, by taking into account the linkages between the two, can improve macroeconomic stability (Saputro & Prakoso, 2021).

The implementation of Security Sector Reform in Indonesia since 1999 has been fluctuating and has followed the dynamics of the interests of the ruling political regime and civil-military relations. In the era of B.J. Habibie (1998-1999) and Abdurrahman Wahid (1999-2001), Security Sector Reform has been relatively successful because of the various achievements it has made, for example, reflected in the ratification of security sector regulations that have a more democratic character because there is constructive cooperation between the military and civilians, as seen in contents of the National Defense Law and the National Police Law (2002), as well as The Indonesian National Armed Forces Law (2004). In contrast to the Habibie and Wahid era, Security Sector Reform in the era of Megawati Soekarnoputri (2001-2004) and Soesilo Bambang Yudhoyono (2004-2009). Security Sector Reform experienced stagnation due to various factors, including resistance from security actors and securitization of the involvement of security actors in combating terrorism.

Apart from the ups and downs of the development of the Security Sector Reform praxis in Indonesia, Security Sector Reform is a theoretical concept and a guide that is useful as a benchmark in making security

sector policies related to the public interest and, at the same time, national security. The consideration of democracy, in its development, has a logical consequence that defense economic affairs also require the fulfillment of the principles of accountability and transparency to keep Indonesia on the political tracks that have been in effect since mid-1998. Therefore, the democratization of the defense economy has become a keyword in supporting various state programs and policies regarding the defense budget, modernization of defense equipment, and the defense industry.

The types of threats consist of military threats, non-military threats, and hybrid threats. These threats are both current and potential. Potential threats include open conflicts, nuclear weapons, economic crises, pandemics, and foreign immigrants. The non-military defense layer is composed of security functions for public safety which includes the handling of natural disasters and other humanitarian operations, socio-culture, economics, defense psychology, which are related to the thinking of state defense awareness, and technology development. National defense in facing non-military threats places Ministries and institutions outside the field of defense as the Main Elements. Here it demands the main role of the Ministries / Institutions involved in supporting non-military defense, especially in the economic field (Saputro & Prakoso, 2021).

CONCLUSIONS, RECOMMENDATION AND LIMITATION

Defense economics as a multidisciplinary study discusses resource allocation, income distribution, economic growth, and political stability as applied to topics related to defense. According to the defense economy, the impact of the use of the defense budget on the economy can be viewed from the demand or consumption and supply or production approaches. From the consumption side, the defense can

protect national resources against various threats, so that national consumption becomes stable and even increases.

Based on this research using role theory according to Biddle and Thomas, among others, expectations have the hope that defense economy is a science to find the best way of allocating various national resources to meet the need for a sense of security from threats. From the point of view of norm, the main role of the defense economy is the achievement of effectiveness and efficiency in every process that occurs in the discussion of defense. Effectiveness is a measure of the level of fulfillment of output in a process to achieve the ideal output goal. In terms of performance, that starting from economics as a social science that analyzes the production, distribution, and consumption of goods and services, the role of economics is how economic actors act or interact and how an economy works. From the evaluation point of view, it can be concluded that in Indonesia as it happens in other countries, it is a process to inject the principles of accountability and transparency in all aspects of the management of the security sector which includes although not limited to military, police and intelligence institutions.

It is hoped that it can provide government input on the importance of the role of the defense economy in economic growth in Indonesia. In this case, the defense economy plays a role in increasing security stability, so the government should pay attention to defense-security spending budgeting, especially the adequacy of its allocation, priority level, and linkages between other components. This research has been attempted and carried out following scientific procedures, however, it still has limitations, namely limited international references on defense economics, defense economics is identical to the budget funds used by the Ministry of Defense.

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