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Independence of the Indonesian Defense Industry and Challenges in Defense Budget Allocation

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Abstract

This research aims to explore key issues related to Indonesia's economic potential, particularly its Gross Domestic Product (GDP) reaching US$9.3 trillion. The International Monetary Fund (IMF) projections indicate that by 2030, Indonesia will be one of the top economic powers, competing with India and Brazil. The primary focus of the research is the defense sector as a strategic potential requiring a proactive response. The research objectives involve exploring the level of self-sufficiency in the defense industry, understanding challenges related to defense budget allocation, and identifying factors influencing global competitiveness. The research methodology is descriptive with a qualitative document-based approach, specifically focusing on strategic State-Owned Enterprises (SOEs) within Defense ID, such as PT Len, PT Pindad, PT PAL, PT DI, and PT Dahana. Data analysis encompasses information from these SOEs, utilizing theoretical frameworks including Competitive Theory, Penta-Helix Theory, Defense Industry Cluster Concept, and Central Government Budgeting Model. Research findings indicate that SOEs within Defense ID can be considered self-sufficient in the global defense industry competitiveness. However, it is noteworthy that the Defense Budget allocation is still below 1% of the GDP, creating its own challenges. The conclusion of the research is that Indonesia has significant potential to develop a self-reliant defense industry capable of global competition. Recommendations include enhancing collaboration, developing Pentahelix or Septahelix concepts, and implementing Defense Industry Clustering to improve innovation, efficiency, and competitiveness in the sector. Additionally, the Defense Budget Allocation Policy significantly influences the progress of this industry, requiring proactive measures to ensure alignment with the desired economic growth. Thus, the research findings provide a foundation for the Government, Stakeholders, and Future Researchers to develop strategies and policies supporting optimal growth in the Indonesian Defense sector.

Keywords: Defense Industry Competitiveness, Defense Industry Clustering, Saptahelix Model, Defense Budgeting Model Concrete.

INTRODUCTION

In the early 2000s, the term 'BRIC,' representing Brazil, Russia, India, and China, gained prominence. Now, a similar concept known as 'MINT' has emerged, focusing on Mexico, Indonesia, Nigeria, and Turkey as countries with significant potential to become major economic players (Karim, 2014). Given this context, the IMF's projection that Indonesia will rank as the world's fifth-largest economy with a GDP of US$9.3 trillion by the 2030s appears credible. It foresees a global economic landscape dominated by five key nations: China, the United States, India, Brazil, and Indonesia. Indonesia's ascent to such economic prominence may even position it within the G-8 group.

However, a notable challenge lies in the fact that Indonesia's defense industry is not yet self-reliant, marked by limited domestic production of defense and security equipment. Therefore, it is imperative to proactively address this issue, considering the significant opportunity at hand. If Indonesia indeed achieves developed country status and secures a place among global economic leaders, it must concurrently develop an advanced, robust, and independent defense industry. It is inconceivable to be a G-8 member while relying on imported defense equipment for national security. Hence, this issue requires immediate attention and action.

The Indonesian defense industry presently confronts significant hurdles in terms of product quality, after-sales support, and delivery timeliness. Consequently, the produced defense items do not meet the expected standards, raising apprehensions about their impact on our defense capabilities. While these concerns are valid, there is a need to shift the prevailing perception that domestic defense industry products are inherently challenging to develop and, when utilized, may compromise our national defense capabilities. It is essential to reevaluate this perspective. There might come a time when the Indonesian military heavily relies on defense equipment predominantly sourced from the domestic defense industry, ultimately enhancing our self-reliance (Karim, 2014).

From the perspective of the state budget (APBN), Indonesia's defense expenditure has shown a consistent increase over the years. To illustrate, in 2012, the defense budget stood at IDR 61.3 trillion, and by 2022, it had grown to IDR 134 trillion. However, it's worth noting that this amount accounts for only 0.8% of Indonesia's GDP. So, despite the budget's nominal increase, the percentage of GDP allocated to defense has remained fairly constant over the years, ranging from 0.6% to 0.8%. For context, NATO member countries, on average, allocate 2% of their GDP to defense. While achieving this ideal figure may prove challenging, it would be advantageous if the defense industry can persist in fostering its self-reliance. The hope is that if, in the future, Indonesia manages to attain the desired defense budget figure of 2% of GDP, it would significantly reduce the outflow of funds to other nations.

Conversely, the defense industry faces a range of challenges in its pursuit of autonomy. Professor Muradi, a prominent defense expert, has highlighted a classic dilemma within defense industry governance. He raises the question: "Is it a matter of prioritizing guns or butter? Should we enhance the defense industry or prioritize economic development first?" His perspective suggests that only when the community's well-being is securely established can efforts be dedicated to the development of the defense industry (Gatra, August 2022).

To establish a dependable defense infrastructure, supported by a self-reliant defense industry, substantial budget policies, capital investments, and significant financial commitments are necessary. Therefore, the government should explore financing avenues beyond relying solely on the state budget (APBN). Building a robust defense industry cannot solely rely on regular funding; affirmative actions are essential. As an illustrative example, during the era of President Soeharto, Indonesia advanced the CN-235 aircraft project by utilizing reforestation funds (Gatra, August 2022).

The endeavor to establish a self-reliant defense industry had its origins in the New Order era, but it faced interruptions due to the 1997 monetary crisis. This was further complicated by the unstable political and security conditions resulting from the 1998 reform events. The initiative was later resumed during President Susilo Bambang Yudhoyono's second term in office, marked by the enactment of Law Number 16 of 2012, which pertains to the Defense Industry (Adriansyah, 2018). In Chapter II of this law, the objectives for organizing the defense industry were outlined as follows: To cultivate a professional, effective, efficient, integrated, and innovative defense industry. To achieve self-sufficiency in supplying defense and security equipment. To enhance the capacity for producing defense and security equipment, as well as maintenance services, to bolster the establishment of a dependable defense and security force (Singer, 2001). However, despite the implementation of Law Number 16 of 2012 for a decade, the progression toward achieving independence within the defense industry has not exhibited significant development.

Based on the explanation above, in this research the researcher will examine the independence of the defense industry and its challenges in defense budget allocation. This is because the size of the defense budget allocation is a vital aspect in the independence of the Indonesian defense industry, while the independence of the defense industry is an important

factor that supports the country's defense strength. The theories used in this research are competitiveness theory, penta helix theory, defense industry cluster concept, and central government budgeting model. The defense industry studied is limited to strategic state companies (BUMN) included in the Defense ID holding (PT Len, PT Pindad, PT PAL, PT DI and PT Dahana).

RESEARCH METHODS

The research methodology employed is the descriptive research method, characterized by a document-based qualitative approach. Descriptive research seeks to portray and elucidate objects or subjects as they exist, as described by Creswell (2004). In this context, the data utilized consists of secondary data sourced from a comprehensive review of the existing literature, encompassing books, journals, articles, news sources, and reports that are verifiable. The role of the researcher in this process involves examining the conclusions and outcomes of prior researchers to obtain a comprehensive grasp of the subject under investigation.

RESULT AND DISCUSSION

Defense Industry Independence

During the launch of the Defense Industry Indonesia (Defend ID), a state-owned defense industry holding, at the PT PAL Indonesia Office in Surabaya on April 20, 2022, President Joko Widodo (Jokowi) emphasized the importance of establishing a robust and self-reliant defense industry. He stressed the need for this industry to not only excel in the domestic market but also gain recognition on the global stage (Gatra, August 2022). The President's aspiration is certainly well-founded, especially considering that Indonesia already possesses several strategic state-owned enterprises engaged in the defense sector. By consolidating these key entities, such as PT Len, PT Pindad, PT PAL, PTDI, and PT Dahana, under a single holding, there is optimism that synergies can be more effectively harnessed among these five companies, hastening the realization of the desired outcomes.

The independence of a defense industry hinges on its capability to produce high-quality products, indicating its competitiveness. This competitiveness, as outlined by Cravens (1996), refers to a company's capacity to vie with its rivals effectively. Therefore, it is imperative for every company to devise a competitive strategy and establish competitive advantages that focus on dynamic processes. On a related note, Henry Faizal Noor (2007) posits that competitiveness denotes the strength and resilience in the competition to secure consumer attention and loyalty. Meanwhile, as per Martin's perspective (1991), competitiveness represents the sustainable capacity to generate profits and uphold market presence. Synthesizing these expert views, it can be deduced that competitiveness is a company's ability to outperform its competitors in winning consumer attention and loyalty, ensuring enduring profitability and market sustainability.

Competitiveness of PT Len Industri

PT Len Industri (Persero) is a State-Owned Enterprise (BUMN) which develops business and products in the field of electronics for industry and infrastructure. Increasingly tight competition in electronic technology-based businesses has forced PT Len Industri to take steps to focus on the business sectors of information and communications technology, railway transportation, renewable energy, navigation systems and defense electronics. PT Len Industri is one of the companies that hopes to become a world class company or be on par with multi-

national companies. The BUMN led by Abraham Mose is now on a clear path, namely becoming a company to be reckoned with in the world.

PT Len's defense products are Secure Radio Communication, Tactical Data Link, Combat Management System (CMS), Surveillence & Reconnaissance System, Vehicular Intercommunication System, Radio Base Station, Crypto Device Solution for Voice and Data Communication, Radar Processing & Display Console, Target Transponder Torpedoes and the NAVINSYS Intercom System have all been used in Indonesian Army (TNI) defense equipment. In fact, PT Len has received international recognition as a leading electronics company in terms of signaling. In the transportation sector, as a company that produces railway transportation equipment, PT Len places safety and reliability as the main concern in product development with the motto "failsafe – no compromise" (https://www.len.co.id/2023).

Competitiveness of PT Pindad

PT Pindad is one of the oldest state-owned companies that has been established since the Dutch colonial era. The company which has had the name Pindad since 1983 has been active in producing various defense equipment for the needs of the Indonesian Army (TNI), and has also exported a number of superior products such as weapons, ammunition and combat vehicles to the market. global. Apart from producing defense equipment, PT Pindad also produces industrial machines and heavy equipment such as excavators, railway hooks, generators, tractors, traction motors and ship cranes.

Weapons made by PT Pindad have good accuracy and durability on the battlefield, this is very suitable for defense and security needs. Several variants of weapons made by Pindad are always used by the Indonesian Army and have succeeded in achieving achievements in the Asia Pacific Army Shooting Competition (ASAM), the Southeast Asia Army Shooting Competition (AARM), as well as the annual Shooting Competition organized by the Royal Armed Forces. Brunei (BISAM). Each production is prioritized to supply domestic defense and security equipment needs as well as to meet export/order needs from other parties (https://pindad.com/2023).

Competitiveness of PT PAL

PT PAL Indonesia (Persero) is the Main Defense Industry/Main Weapon System Manufacturing Industry designated by the government as the lead integrator that produces the main weapons system or integrates the main components, components and raw materials into a ready-to-use weapons system (UU 16 of 2012). PT PAL Indonesia has a reputation for developing the national maritime industry. As a national company that is the main pillar for the maritime industry, PT PAL Indonesia works hard to convey knowledge, skills and technology in the maritime industry that is beneficial to the wider community. PT PAL Indonesia always strives to create quality products and perfect services.

PT PAL's innovative products have been widely used by the Indonesian Navy, several national shipping companies, and even the Philippine Navy. With a commitment to providing solutions for shipbuilding and the general design-build industry, PT PAL Indonesia realizes that success depends on knowledge, mastery of technology and skills. The company's capabilities linked to state-of-the-art technology supported by the latest equipment have enabled the company to design and build customized ships. In the field of general design, PT PAL also makes heavy industrial components such as electric power plants, diesel engines, steel structures, as well as oil and gas industrial equipment. Services provided include surveys, checking ship overhouls in detail, ship systems and equipment maintenance (https://www.pal.co.id/2023).

Competitiveness of PT Dirgantara Indonesia

PT Dirgantara Indonesia (Persero), or also known as PT DI which was formerly known as IPTN is one of the aerospace companies in Asia with core competencies in aircraft design and development, aircraft production, aircraft structure manufacturing, and aircraft services for civil

and military in the light class. and intermediate. Since its founding in 1976 until now, PT DI has succeeded in developing its capabilities as an aircraft industry. PT DI has made various types of aircraft, such as the CN235 for civil or military transportation, Maritime Patrol Aircraft, Maritime Surveillance Aircraft, and Coast Guard aircraft. PT DI has delivered nearly 400 aircraft to 50 airline operators throughout the world.

PT DI also entered into a strategic cooperation agreement with Airbus Defense & Space, Spain, to produce CN235 and CN295 components for export to Airbus Defense & Space, develop and produce the NC212i (an improved version of the NC212-400), and also carry out Light Final Assembly and Delivery. CN295 Center. Together with LAPAN, PT DI has successfully built the N219 aircraft and carried out its first test flight on August 16 2017. The N219 aircraft is an aircraft with two turboprop engines which refers to CASR Part 23 regulations with a passenger capacity of 19 people. This aircraft will support inter-island connectivity, especially in the Pioneer area because it has the ability to take off on short, unprepared runways.

Apart from fixed wing aircraft, with a license from Airbus Helicopters, PT DI also produces various types of helicopters, such as the NAS332 C1 Super Puma, NAS330 Puma, AS365/565, H215, H225M/H225, H125M/H125 and Bell 412EPI with a license from Bell Helicopter Textron Inc. In the aerostructure business, PT DI produces aircraft equipment, components and equipment for Airbus A320/321/330/350/380, for Airbus MKII and H225M/H225 helicopters, as well as for Airbus Defense & Space CN235 and CN295. PT DI also has technical capabilities in design, unmanned aerial vehicles (UAV), aircraft testing and certification, and flight simulators. Lastly, PT DI also provides maintenance, repair and logistics support for CN235, NC212-100/200/400, NC212i, Heli Bell412, BO-105, NAS 330 Puma, NAS332 Super Puma, B737-200/300/400/ 500 (https://www.indonesian-aerospace.com/id/2023).

Competitiveness of PT Dahana

PT Dahana is one of the State-Owned Enterprises (BUMN) members of the Defense Industry Holding (DEFEND ID) which operates in the field of high-energy materials. PT Dahana provides integrated explosives services for the General Mining, Defense, Quarry and Construction, and Oil and Gas sectors. PT Dahanan has four business lines; Explosives Manufacturing, Drilling & Blasting, Related Services, and Defense Related. PT Dahana serves consumers through three divisions: First, the General Mining Division which serves general mining, such as coal, gold, nickel and others. Second, the Quarry & Construction Division which serves the quarry mining segment such as andesite, cement and granite, as well as the construction sector for the construction of tunnels, highways, ports, power plants and others. Third, the Oil & Gas Division which serves the oil and gas mining sector by offering perforation and seismic explosives services along with other supporting services such as explosives mobilization and licensing.

Dahana also places a factory at the mine site called On Site Plant (OSP) with the support of a Mobile Manufacturing Truck (MMT) to increase the effectiveness and productivity of operational performance and client support. Apart from the domestic market, Dahana products have also been exported to foreign countries such as Canada, Oman, Iran, Egypt, Qatar, Australia, China, several ASEAN countries and others (https://dahana.id/2023).

Defense Industry Development

As explained in Minister of Defense Regulation Number 23 of 2016 concerning Defense Industry Development, what is meant by defense industry development is a series of efforts or activities carried out to increase the capability and capacity of the defense industry in meeting defense and security needs. In carrying out guidance, the Minister of Defense has the authority to: (1) determine the defense industry according to grouping, (2) determine the types of defense and security products, (3) grant permits for production, marketing domestically and abroad,

export, import and business expansion, (4) development of defense industry capabilities, (5) maintenance of defense industry capabilities and capacity, (6) standardization of defense industry defense and security products, and (7) supervision and control.

If we refer to Minister of Defense Regulation Number 23 of 2016, the Government, in this case the Minister of Defense, has a huge influence on the survival and development of the defense industry, both BUMN and BUMS. With all the supporting apparatus (Secretary General of the Ministry of Defense, Director General of Defense Potential, Director General of Defense Planning, Director General of Defense Power, Head of the Defense Facilities and Infrastructure Agency, and Head of Research and Development of the Ministry of Defense) it is possible for the Minister of Defense to be able to carry out maximum guidance for the defense industry from administrative support, policy formulation, standardization, R&D support to the prototype stage, to supervision and control.

However, no matter how much authority the Government/Minister of Defense has, it will still not be able to build this defense industry alone. In the "2015 Indonesian Defense White Paper" three pillars of defense industry policy makers are mentioned, consisting of users (Indonesian Army, Police, other agencies, Foreign Affairs/Exports), producing parties (BUMN/BUMS), and designers/researchers (Ministry of Defense, Ministry of State-Owned Enterprises, Ministry of Industry, Ministry of Research and Technology, etc.). Where the direction of defense industry development is to achieve a defense industry that is strong, independent and competitive. For this reason, empowering the defense industry requires cooperation between stakeholders, namely the government as regulator, users as consumers and the defense industry as producers as well as the Defense Industrial Policy Committee (KKIP) as the organizer of the function of formulating and evaluating policies regarding industrial development and utilization.

If we examine it more deeply, to realize the independence of the defense industry requires collaboration and synergy from all stakeholders involved in the development of defense technology. The concept of the Three Pillars of policy makers needs to be expanded further into a multi-party concept or what is commonly known as the Pentahelix theory. Based on the Pentahelix concept of the defense industry, Teguh Haryono in an open promotional session at the Defense University Campus, Bogor (6/7/2022) with a dissertation entitled "Research Model of Stakeholder Roles in Collaborative Development of Indonesian Defense Technology" even found that there were 7 stakeholders who had significant contributions. strong in the development of defense technology.

Teguh explained the seven stakeholders, first, universities or research institutions (R&D) as a connecting bridge between users and industry. Second, the government will determine the vision, strategy, roadmap, and build an ecosystem and clustering of R&D and defense industry, implement and supervise it. Third, the defense industry is building an ecosystem and cooperation, both in R&D and joint production activities with other stakeholders. Fourth, users evaluate and provide feedback on the product. Fifth, a professional organization that compiles and maintains a database of professional human resources in technology and the defense industry. Sixth, banks/financial institutions that provide guarantees to the defense industry. Seventh, the DPR/legislature, which prepares, revises and/or ratifies laws related to defense technology and industry by favoring domestic capabilities.

In his research, Teguh Haryono put forward a new term, namely "Haryono Saptahelix Model". For this reason, he added two new roles, namely banking/financial institutions and DPR/legislature as a development of the previous theory or Pentahelix theory. That's why Teguh calls it a new term, namely Seven Helix (Saptahelix). Of course the results of this research will be interesting if the Ministry of Defense is willing to use it as a reference in developing a

collaboration scheme for developing the defense industry involving stakeholders from various expertise.

Defense Industry Clusterization

Clusters have become an interesting topic in scientific discussions because they are considered important for industrial growth and development, after Piore and Sabel (1984) proposed "Flexible Specialization" which was motivated by the successful experience of small and medium industries in Northern Italy in the 1970s and the fall of the mass production system. in America in the 1980s. Then Porter (1998) defined a cluster as a geographic concentration of interconnected companies and institutions in a particular sector. Even though clusters encourage industries to compete with each other, they remain connected because of their togetherness and complementarity. Apart from industry, the cluster also includes government and industry which provide support services such as education, training, information, research and technology support. Meanwhile, according to Enright (1992) in Alena (2016), clusters are companies of the same type or are related to each other, gathered within a certain geographical boundary.

From the two expert opinions above, it can be concluded that an industrial cluster is a network of a group of interrelated industries in one area. Consists of core industry, supplier industry, supporting industry, related industry, user industry, and government/supporting institutions/institutions. However, it should be noted that currently the development of communication technology and transportation facilities has more or less reduced the importance of geographical proximity, therefore geographical boundaries have become flexible depending on the interests.

In the National Long Term Development Plan (RPJP) 2025-2045, 5 priority industrial groups have been determined, namely: (1) natural resource-based industries, including agro-based industries, mining downstream-based industries, and marine resource-based industries, (2) basic industry, including basic chemical industry and metal industry, (3) medium-high technology industry, including defense industry, (4) sustainable consumer goods industry, (5) innovation and research-based industry, namely bio-based industry and biotechnology.

As for the defense industry, Law Number 16 of 2012 concerning the Defense Industry states that the defense industry consists of the main equipment industry, the main and/or supporting component industry, the component and/or supporting industry (supplies), and the raw materials industry. From this it can be seen that from the start the government and the DPR have designed the defense BUMN to be the main equipment industry that produces defense equipment as well as the main guide (lead integrator) that integrates all the main components, components and raw materials into the main equipment. Then in 2022 the “Undang-Undang Cipta Kerja” emerged which was incorporated into the Omnibus Law, which opened up the role of BUMS as lead integrators. However, until now the government has not seen any provisions regarding the clustering of the defense industry. In the " Buku Putih Pertahanan Indonesia 2015" it only states that clustering of the defense industry is to provide development direction that must be implemented by the industry in order to realize the planned level of industrial capability. The purpose of clustering is so that industry can focus more on developing a product based on its production capabilities and technology so that product quality can be improved and in accordance with needs.

The importance of defense industry clustering has also been discussed in various seminar and discussion forums, including a seminar held by the Defense Industry Communication Forum (Forkominhan) on 22 February 2023 with the theme "Defense Industry Clusterization to Increase Competitiveness on the Global Stage". The speakers at the seminar were Minister of Defense for the 2009-2014 period Purnomo Yusgiantoro and Governor of Lemhannas Andi Widjajanto who both explained the importance of clustering the defense industry based on Indonesia's experience

during the 1998 economic crisis and predictions of the possibility of war like what we would face in the future (https://projustisia/2023).

What Purnomo Yusgiantoro said is in accordance with reality, when the economic crisis hit the world, Indonesia was one of the countries that was greatly affected, at that time the defense industry immediately collapsed, in fact for more than 10 years the defense industry had difficulty developing. It was only in 2009 that we got up and planned the minimum basic needs for our defense equipment or better known as Minimum Essential Force (MEF) stages 1,2 and 3 which will be completed in 2024. Likewise, what was said by Andi Widjajanto who asked what war would be like in 2030? Because by predicting what kind of war will occur, we can prepare what kind of defense equipment we will use for war in 2030, then what defense industry will be developed and relevant to face that war. "There are three things that can be used as a benchmark, to project for the next 10 years. First, the global geopolitical battle between countries in the world. Second, the latest technological innovations. Third, changes in the character of the defense industry," said Lemhanas Governor, Andi Widjajanto (https://m.prorakyat.co/2023).

The application of the clustering concept in the defense industry can have advantages and disadvantages that need to be considered. The advantages are: (1) Clustering allows companies to more easily work together, share knowledge, resources and expertise. This can produce synergy and collaboration that increases innovation, product development and operational efficiency. (2) In the defense industry cluster, companies can build an integrated and efficient supply chain. With a cluster, companies can support each other in meeting production requirements and needs, thereby reducing logistics costs and delivery times. (3) Clustering can create an environment that encourages innovation and R&D. When companies are concentrated in one region, there is potential for the exchange of ideas, knowledge, and technology that can speed up the innovation process. (4) Through clustering, companies in the defense industry can gain competitive advantages by strengthening their competitiveness. Collaboration, knowledge exchange and a focus on competitive advantage can lead to better and more innovative products and solutions.

The disadvantages of implementing the defense industry clustering concept are: (1) Clustering could result in significant dependence on one particular industrial sector. If there are changes in demand or policies that affect the sector, clustering could experience negative impacts. (2) When companies gather in one cluster, there may be a tendency for less diversification of products and services. This can increase risk if there is disruption in a particular sector or product demand. (3) Clustering can lead to strong competition between companies in the cluster trying to capture market and project share. This competition can lead to pricing pressure and possibly lower profits. (4) When companies are concentrated in one cluster, they may face geographic limitations. They tend to be tied to specific regions, which can impact flexibility to expand into new markets or adapt to changing market conditions.

Before the defense industry clustering concept is implemented, it is important to consider the advantages and disadvantages, including unique factors that may not have been mentioned above. In this case, the government is expected to make strict regulations to minimize potential deficiencies that may occur after the implementation of defense industry clustering. But there is no longer any need to doubt the benefits, because cluster theory emphasizes that the density of companies and institutions in an area can provide competitive advantages. In clusters, companies can share resources, information and expertise, thereby increasing innovation, efficiency and competitiveness of the defense industry as a whole.

Challenges in Defense Budget Allocation

In the To build a country's defense posture, an adequate budget policy is needed. Each country has its own ideal conditions regarding how their defense industry should run. Ideally, every country (generally developed countries) has a large national defense budget. Of the defense

budget, 20-30 percent is allocated to the defense industry (Karim, 2014). In Indonesia, the gap regarding the defense budget is still too large, because the defense budget allocation when rationed to GDP from year to year is still in the range of 0.6-0.8 percent. This is a small amount and is very crucial for the development of our defense industry. Based on 2022 Global Fire Power (GFP) data, a country like Singapore alone, with around 60 thousand military personnel, has allocated a defense budget of 11.56 billion US dollars or the equivalent of IDR 166 trillion. Meanwhile, Indonesia, with around 400 thousand military personnel (almost 7 times as many as Singapore), only allocates a defense budget of 9.3 billion US dollars or the equivalent of IDR 134 trillion.

In the Draft State Revenue and Expenditure Budget (RAPBN) 2023, the government allocated a budget for Defense Expenditure worth IDR 131.78 trillion, down 1% compared to the 2022 outlook. Of the defense budget allocation, the most is allocated for management support programs (including salary payments employees) worth IDR 79.1 trillion (59.96%), after that comes the modernization of defense equipment, non-defense equipment and defense facilities and infrastructure worth IDR 35.88 trillion (27.2%). There are also defense research, industry and higher education programs worth IDR 1.06 trillion (0.8%). How will the independence of our defense industry be realized with such limited budget support? What are the actual challenges faced by the government in allocating a larger defense budget?

Budget allocations that receive top priority such as public services, the economy and social protection by the government are considered functions that directly influence the welfare of society.

There are several theories and approaches used to determine the size of a country's budget, including:

1) Functional Theory. This approach focuses on the functions that must be fulfilled by government in society, such as security, education, health, infrastructure and others. Functional theory states that the budget must reflect the needs and priorities in fulfilling these functions.
2) Keynesian Economic Theory. This approach is based on the Keynesian economic view which assumes that the government can play an important role in overcoming economic fluctuations through fiscal policy. In this theory, the government budget can be used to overcome deficits or stimulate economic growth.
3) Public Revenue Theory. This theory focuses on the relationship between national income and the size of the government spending budget. This approach proposes that the size of the expenditure budget must be in line with available revenues in order to maintain the country's fiscal sustainability.
4) Efficiency and Effectiveness Theory. This approach emphasizes the efficient use of the government budget and achieving effective results. The government must consider the costs and benefits of each program or activity that will be funded through the budget.
5) Economic Development Theory. This approach focuses on investment in sectors that can encourage long-term economic growth. The government uses the budget to finance infrastructure, research and development, workforce training, and other strategic sectors that contribute to the country's economic development.

However, it should be remembered that determining the size of the state budget is not only based on one single theory. Usually governments combine various approaches and consider political, social, economic and policy factors in the budget decision-making process. The government will prioritize programs that are the basic needs of its people and can have a direct impact on welfare. The data below can be a reference to see how Indonesia's economic growth has been in the last 60 years.

If we want to assess someone's economic situation, the first thing we will do is look at their income. Someone with a high income will be able to meet life's needs and luxuries more easily. Therefore, usually someone whose income is relatively high will enjoy a high standard of living, better health care and housing, more expensive cars, more luxurious holidays and so on. The same logic applies to a country's economy, whether it is going well or badly what is seen is the total income earned by everyone in the economy, which is called Gross Domestic Product (GDP). (Mankiw, 2006).

Indonesia's GDP is currently still relatively small to be able to meet all sectors with an ideal budget. There are several problems currently occurring in allocating the state budget, namely: (1) Inaccuracy in determining expenditure priorities, where budget allocations tend to be given more to certain sectors, such as infrastructure, while other important sectors, such as defense and technological research does not receive adequate allocation. (2) There is inequality in budget allocation between one region and another. (3) There are still many cases of budget misuse and corruption, the handling of which is sometimes not transparent, especially if they involve high-ranking officials in certain institutions or the ruling family. (4) There are still many budgets that are not used effectively and efficiently, there is a lack of adequate monitoring and evaluation, resulting in waste and cost overruns for government projects. (5) Political decisions in the DPR to approve or not the budget plan that has been made and proposed by the government.

Based on the problems described above, the government will always be faced with a dilemma in determining the budget allocation between the defense and non-defense sectors to accelerate economic growth. This is caused by defense issues which do not always have a direct impact on people's welfare. There will be a trade-off between the defense budget allocation and the public welfare budget considering budget limitations. This budget priority depends on presidential policies implemented by the government or related ministries (Afriadi, Sutrasna, Josstensz, 2020).

However, is it true that defense budget issues do not have a direct impact on people's welfare? Based on research conducted by Saputro, Rivai, & Meirinaldi (2021), it was concluded that the defense budget has a significant effect on economic growth with a positive relationship. This shows that the defense budget has an important role in improving the economy in Indonesia. Based on this research, the implication was also found that appropriate defense budget planning and allocation of defense spending each year can support Indonesia's defense strength. With a good defense force, it is able to create and increase Indonesia's economic growth. If the defense budget increases, economic growth will also increase. So it can be concluded that the defense budget allocation policy is very dependent on government (President) policies which have been approved by the DPR and implemented by the relevant ministries. This is closely related to how big the country's ability to achieve its GDP is and how the Government and DPR view the defense budget as a priority.

CONCLUSION

Based on the results of the study and discussion described above, the following can be concluded:

1) If you look at what our defense industry has produced (PT Len, PT Pindad, PT PAL, PTDI, and PT Dahana) then there is no doubt that these companies have competitiveness in the defense industry arena. This means that the defense industry can be said to be independent, because what they produce has been able to win the attention and loyalty of consumers so that they can gain sustainable profits and be able to maintain the market.

2) To realize the independence of the defense industry as a whole, collaboration and synergy are needed from all stakeholders involved in the development of defense technology. The concept of the Three Pillars (Triplehelix) of policy makers needs to be expanded further into the Pentahelix concept, even Saptahelix where stakeholders (Government, Universities/R&D, Defense Industry, Users, Professional Organizations, Banks/Financing Institutions, and the DPR) can work together to take their respective roles. each.
3) Defense industry clustering needs to be implemented immediately, because cluster theory proves that the density of companies and institutions in an area can provide competitive advantages. In a cluster, companies can share resources, information and expertise, thereby increasing innovation, efficiency and competitiveness of the defense industry as a whole.
4) The defense budget allocation policy is very dependent on government (President) policy which has been approved by the DPR and implemented by the relevant ministries. This is closely related to how big the country's ability to achieve its GDP is and how the Government and DPR see the right scale of priorities and are able to divide them into all sectors.

Based on the results of this research, there are several things we recommend:

1) For the Government (Ministry of Defense, Ministry of BUMN, Ministry of Industry, Ministry of Research and Technology, etc.), this research is a recommendation to determine the direction of development of the defense industry in order to achieve a strong, independent and competitive defense industry to support Indonesia's defense.
2) For stakeholders (Government, Universities/R&D, Defense Industry, Users, Professional Organizations, Banks/Financing Institutions, and DPR) this research is a recommendation regarding the importance of synergy in the development of the defense industry.
3) For the Government and DPR, this research can be a recommendation for determining allocation priorities and the amount of the defense budget each year so that economic growth can increase.
4) For future researchers, this research can become a form of literacy in conducting further research, especially in the field of defense industry independence and defense budget allocation.

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