THE MAIN EQUIPMENT BUSINESS OF WEAPON SYSTEMS (ALUTSISTA) IN DEFENSE: MARKET STRUCTURE AND COMPANY MERGER

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Abstract
Defense procurement is basically a strategic and sensitive issue. This involves detailed information regarding the national defense capacity and capability that other countries may not know as much as possible. This study aims to describe the business of the main weapon system (alutsista) in defense related to how the defense industry cycles, the character of the defense industry, market structure and company mergers. The approach in this study uses a descriptive approach, while the type of research is descriptive qualitative research. The defense industry, like any industry, undergoes a process of growth to mature. The defense industry has various characteristics that indicate its identification in terms of the defense economy. The market structure related to the practice of the defense industry is more emphasized on the imperfect market structure. In the defense industry, monopoly, oligopoly, and competitive markets are heavily influenced by internal and external factors of the company. In the commercial defense industry, there is an intention to combine two or more companies to minimize costs or maximize profits. Another reason for the merger of the two companies can also be related to the factors of production, and the specific objectives of the company.
Keywords: defense equipment, integration, merger, market structure

Abstrak
Pengadaan pertahanan pada dasarnya memang isu yang strategis dan sensitive. Hal tersebut menyangkut informasi detail mengenai kapasitas dan kapabilitas pertahanan negara yang sebisa mungkin tidak diketahui oleh negara lain. penelitian ini bertujuan untuk mendeskripsikan mengenai bisnis alat utama sistem senjata (alutsista) dalam pertahanan terkait bagaimana siklus industry pertahanan, karakter industry pertahanan, struktur pasar dan penggabungan perusahaan. Pendekatan dalam penelitian ini menggunakan pendekatan deskriptif, sedangkan jenis penelitian adalah penelitian deskriptif kualitatif. Industry pertahanan, seperti layaknya suatu industry, mengalami proses pertumbuhan untuk menjadi matang. Industry pertahanan mempunyai berbagai karakteristik yang menunjukkan identifikasinya dari segi ekonomi pertahanan. Struktur pasar terkait praktik industry pertahanan lebih banyak ditekankan pada struktur pasar yang tidak sempurna. Dalam industry pertahanan, pasar monopoli, oligopoly, dan kompetitif banyak dipengaruhi oleh factor internal dan eksternal perusahaan. Pada industry komersial pertahanan, terdapat maksud penggabungan dua atau lebih perusahaan untuk meminimalisasi biaya atau memaksimalisasi keuntungan. Alasan lain penggabungan kedua perusahaan tersebut dapat dikaitkan juga dengan factor produksi, dan target tujuan tertentu dari perusahaan.
Kata Kunci: alutsista, integrasi, merger, struktur pasar

INTRODUCTION

In the mid-19th century, not long after the first industrial revolution, the modern armaments industry began to take shape. It was inspired and encouraged by a group of inventive entrepreneurs who succeeded in developing the science of explosives and weapons. These extraordinary people, who within a few years succeeded in founding a number of giant companies that manufacture an incomparable variety of destruction tools, contributed various kinds of knowledge to the new industrial field, and they also gave a long picture of the future. There are two things that look very striking from the start. First, the development of armaments is considered inseparable from the entire course of industrial development. Second, the war defense industry is the largest of all industries (Sampson, 1987).

Empowerment of the defense industry is always related to the technology to be used as well as the general cost of capital and financing, production and productivity of defense industry companies. The cost of capital will be related to finance and banking, both nationally

and internationally (Supriyatno, 2014). In general, the character of weapons products is the same as that of other high-tech products that are high-involvement. There is a dependence of consumers on producers related to the operationalization of technology and also its maintenance (Priyatna, 2009).

The Defense Industry Law stipulates that the defense industry consists of the main equipment industry, the main and supporting component industry, the component and supporting (supplies) industry (Karim, 2014). The main/supporting component industries may be BUMN or Private Owned Enterprises (BUMS). The main/supporting component industry produces main components or integrates components or spare parts with raw materials to become the main components of the defense and security system or defense system platform. Meanwhile, the component/support industry (supplies produces spare parts for the main weapon system equipment, spare parts for the main components, and/or which produces supply products (Karim, 2014).

The market relates to products or goods such as defense equipment or services from factors of production such as the delivery of defense equipment. In microeconomics, the market can start from upstream producers, through distributors to consumers. The inputs used in the production process include primary production factors such as labor, capital, technology, and land and intermediate products in producing the final product. In a market economy, the theory of supply and demand is very useful for allocating resources as efficiently as possible.

In the market for goods and services, demand refers to how much of the product is desired or demanded by the market. The quantity demanded by the market is the quantity of a product available for purchase at a given price. The quantity demanded and the market-determined price form the relationship or law of demand. While supply shows how much the market can sell a particular product. The quantity of the product offered shows the number of products that can be provided by the manufacturer at a certain price. The quantity supplied and the price determined by the market form the relationship or law of supply.

The market does not always follow the assumption of perfect competition (Mankiw, 2010), market failure leads to several problems that can reduce the standard economic assumptions (Mukaromah, 2020). Information asymmetry and incomplete markets can result in economic inefficiency or can also increase efficiency through improved markets, laws and regulations. Natural monopoly is an extreme case of competition failure that causes constraints for producers (Hikmahyatun, 2019).

Natural monopoly occurs when the unit price of production decreases (Hamdani, 2018), so that the number of producers becomes fewer. Thus, having only one producer is better for the economy (Putra, 2018). This happened to the defense industry in Indonesia, such as PT Pindad and PT DI. A market structure with one producer or seller is called a monopoly (Aminursita & Abdullah, 2018). Monopoly occurs, among others, because of limitations in opening a business to manufacture certain products (Rahayu, 2013), as a result of high costs, political, economic, and social barriers. An example of a political obstacle is when a country decides to control the production of explosives. Monopoly also occurs when a company gets the right to produce certain products from the government, or has a patent because it has invented a certain type of product. In contrast, a monopsony market structure consists of only one consumer or buyer. For example, the purchase of defense equipment with certain technical specifications is the production of PT Pindad, which is a TNI monopsony.

In an oligopoly market structure, there are only a few companies that produce a product, so prices can be controlled (Bhakti, 2015). Products made are usually identical, as a way to maintain mutual benefits, so they must work well together. Sometimes these companies consist of large producers for certain product markets and other companies as small companies. In contrast, the oligopsony market structure consists of only a few consumers or buyers of a product. Patrol boats produced by PT PAL and BUMS for the interests of the Navy, Police, and Customs and Excise are examples of the oligopsony market.

Based on the above background, this study aims to describe the business of the main weapon system equipment (alutsista) in defense related to how the defense industry cycles, the character of the defense industry, market structure and company mergers.

METHODS

The approach in this study uses a descriptive approach, the approach is intended to describe or describe a business description of the main weapon system equipment (alutsista) in defense, while the type of research is descriptive qualitative research, namely describing and interpreting what exists, it can be about the conditions/relationships that exist. there is. Opinions that are growing, processes that are ongoing, consequences / effects that occur or trends that are developing.

RESULTS AND DISCUSSION

Currently, there are several privately owned public bodies (BUMS) that produce defense and security systems, namely CV Sari Bahari, which produces training aerial bombs, PT Daya Radar Utama (tank transport), PT Lundin Invest (fast ship for trimaran and catamaran missiles), PT Palindo (40 meter fast missile boat and patrol boat), PT Sentra Surya Ekajaya (tactical vehicle), PT Infoglobal (avionics), PT CMI (radar, VSAT for satellite ground segment), PT Langit Biru (people's air umbrella), PT Saba Wijaya (bulletproof helmet), PT Maju Mapan (field tent), PT Sritex and PT Famatex (official clothing, official clothing fabric, cloth), and PT Jangkar (ration/food).

The problem is, most of these BUMS have not been directed to be part of the defense industry cluster capable of producing supporting and supporting components or raw materials. Like the main non-integrating SOEs, most BUMS do not produce goods that are suitable for compiling an integrated cluster. Some of these BUMS produce finished goods that are outside the expected industrial cluster or produce defense equipment that is similar or overlapping with the main equipment industry products as lead integrators.

The private sector has not been able to make a maximum contribution due to not turning the wheels of the national defense industry optimally. Some of the problems that hinder the rotation of the wheel are, first, the private sector has difficulty in making business plans in the medium and long term. These difficulties greatly contributed to the doubts and, indeed, the reluctance of the private sector to invest heavily in the enrichment of high-tech products.

Second, based on experience so far, the private sector sees that production destined for national defense needs ordered by the government, in this case the Ministry of Defense, has not yet reached economies of scale (in simple terms, economies of scale are factors that cause average costs to be met). Average production is reduced due to an increase in the volume of production output. Investment and production costs have reached too high a value due to the small volume or output of government orders. These two problems can actually be solved if

the government is willing to open up or inform the private sector about the plan to procure defense equipment (defense equipment). acquisition) in the medium and long term, so that they can better prepare for everything, especially investment in technology research and development, physical production facilities, and possible joint ventures.

Defense procurement is basically a strategic and sensitive issue. This involves detailed information regarding the national defense capacity and capability that other countries may not know as much as possible. However, this should not be a barrier for the government to provide general instructions or guidelines regarding the plan to procure the main weapons system equipment for the private sector in the country.

In addition to providing information, the government can implement other policies in research and development of defense technology, namely by encouraging the national defense industry to increase the production of goods or services that are dual-use technology, which has dual functions for civil/commercial as well as military purposes. So far, the private sector and strategic industry state-owned enterprises (BUMNIS) have been oriented to the development of dual-use technology rather than solely focusing on national defense products (Karim, 2014).

For BUMNIS, the production of dual-function technology is an inevitable choice because the government has tightened the budget due to the 1997-1998 monetary crisis (Sampurno & Kuffal, 2011). BUMNIS began to provide products and services for national and international commercial purposes. Meanwhile, the national private sector from the beginning has understood that the military equipment business in Indonesia is not a sustainable business sector, at least until now, because the government has never provided incentives and information regarding the equipment procurement plan. Therefore, the private sector continues to provide goods/services that are oriented towards civil/commercial purposes, while continuing to conduct research and development of defense technology, both individually and in collaboration with other parties.

Reflecting on these conditions, for the long term the government needs to start thinking about a strategy for research and enrichment of this dual-function technology. The government must identify the national business sector and, at the same time, be open to opportunities for innovations born from the civilian/commercial market to be later used, adapted, and modified for military purposes or technology spin-ons. In the world of defense industry, the government uses products that are already available in the commercial/civil market, namely products that are research and development of civil technology or commercial-off-the-shelf (COTS).

Defense Industry Cycle

The defense industry, like any industry, undergoes a process of growth to mature. The development of industry in each country is not the same. The defense industry, which has just grown in several countries, obviously takes time to be able to compete in the international market. Thus, it is interesting to observe the cycle of the defense industry and how it can be independent and able to compete. Sometimes the defense industry is built only to meet certain needs of the military, without any intention of internationalization or export, there are even countries that do not do it alone to meet their defense or military needs, but cooperate with other countries' defense industries (joint ventures).

There are several models or approaches regarding the maturation cycle of an industry. In detail, the development cycle of the defense industry in general can be explained as follows:

1. The initial stage of production: companies in order to support the development of defense forces, start production to meet the needs of domestic defense facilities, while the shortage is filled with imports. At this stage, the government provides protection, so that the industry can compete. The protection provided by the government can be in the form of fiscal incentives or government capital participation if the company is a BUMN. By providing incentives, domestic companies are able to produce goods at relatively cheap prices compared to foreign companies, so that domestic companies are able to compete. The problem that always arises in providing protection is the time limit and when the protection must be opened. Giving a time limit is important because it can not only encourage the domestic industry to have a clear and mature plan, so that it is efficient, but also because of international pressure in the era of globalization which rejects all forms of protection.
2. Import substitution stage: the defense industry tries to improve the quality of its production while making import substitutions in order to produce its own means of defense. This import substitution can be done by transferring technology and increasing local content levels through increasing industrial capabilities upstream, such as industries related to raw materials, and avionics/electronics. Countries with limited technological capabilities will develop their industry on defense equipment with a certain level of technology and continue to import defense equipment with high levels of technology. At this stage, sometimes a country does not need a more mature defense industry because its defense facilities are sufficiently capable to cope with emerging threats. Thus, no steps are needed to develop import substitution.
3. Export orientation stage: defense facilities that can already be produced on their own, then standardization and certification are made, then efforts are made to cooperate with foreign companies with an export orientation. After being able to produce domestically, the company will become the dominant company in the domestic monopoly market structure or oligopoly abroad. If the company is able to become dominant because it has the advantage of experience and technological innovation it has, it will be able to compete with other companies that have just emerged in foreign markets.
4. Industry maturation stage: during this time domestic firms will grow up, and be able to compete. Gradually protection began to be reduced, and finally eliminated altogether. At this time, domestic companies are quite able to compete with foreign companies. Sometimes the company cooperates with other companies abroad to seize the market, it can even relocate abroad to get more competitive production factors while capturing the market. At the beginning of the internationalization process, foreign companies are only appointed as representatives who can gradually be granted licenses. The final form of company involvement in producing goods in other countries, namely by making direct investments. In its development, it is possible for foreign companies to conduct FDI without having to go through the order of appointment of representatives and licenses first.

Defense Industry Character

According to Hartley (2007), the defense industry has various characteristics that indicate its identification in terms of the defense economy. Among them, the central point, like corporate finance, is the issue of costs. The cost of making defense equipment is generally expensive and tends to get more and more expensive. The cost of procuring a tactical fighter unit increases by a factor of 2.5 per every ten years. Weapon companies will make increasingly sophisticated weapons. Each new generation of fighter aircraft, for example the 4.5 generation fighter aircraft will be more effective than the previous generation. Higher development costs resulted in fewer aircraft being purchased from a limited defense budget.

In addition to the problem of cost, there are other characteristics that are also important to observe in relation to the character of the defense industry in general, namely as follows:

1. Technological advances. Technological advances produce new products such as jet engines, missiles, electronics, radar, helicopters, and space systems, as a result of R&D. These technical advances affect the market and structure of the defense industry. The long-term structural trend of the defense industry is that the number of large companies is getting smaller and smaller. This happened because of the merger and closure of weapons companies from the defense industry. This trend has been evident since the end of the Cold War in 1990 until now
2. The cost of entering the business. Establishing an arms company requires a large amount of technology development and R&D, qualified scientists and other skilled personnel. R&D costs differ for the type of equipment to be developed. Moving on from here, it can be concluded that the government's involvement in the defense industry will be a measure of the development of a country's defense industry
3. The economics of learning. Producing weapons efficiently requires a learning curve, including for R&D. The cost of learning decreases with the number of weapons produced, because it will meet the economies of scale. The longer the production process, the lower the learning costs
4. Cooperation between two or more companies can benefit both parties, namely through high R&D cost sharing, economies of scale, and learning costs from a longer production process. This is because these companies combine the many orders received. This collaboration results in cost savings for each company involved. Cooperation in the manufacture of defense equipment can also occur between two or more countries
5. Industrial restructuring. The restructuring of the defense industry has coincided with the disarmament process that has occurred since the end of the Cold War. Disarmament led to the cancellation of many projects, fewer orders, shorter production processes, delays in delivery of ordered products, and the postponement of various programs. The restructuring led to a reduction in the workforce, factory closures, mergers or switching of companies from the defense business to other businesses. Companies can also switch from prime contractors to subcontractors, merge with other companies or with other defense companies.

6. Supply chain. Many business actors are involved in the defense industry: prime contractors, first-, second-, third-tier suppliers, and so on. The increasingly complex defense industry supply chain shows the increasing technical capability of subcontractors, dependence on defense programs, and the need for local workers.
7. Adjustment strategy. Technological developments and external fluctuations require the right adjustment strategy for each company. Drastic technological changes occurred when piston engines were replaced with jet engines, manned aircraft were replaced with missiles and unmanned space flights. Technological changes developed for military purposes can be applied to commercial industry. Technological change requires R&D resources to innovate in the military and civilian markets, while external turmoil occurs partly because of war. This turmoil caused the demand for equipment and weaponry to increase. Industry expansion during wartime then contracted when the war was over, causing production to return to peacetime conditions. In order to survive, every defense industry must adapt to the uncertainties arising from technological changes and external turmoil

Market Structure

The market structure related to the practice of the defense industry is more emphasized on the imperfect market structure. Phenomena that occur in the defense industry can be observed empirically, sometimes giving a more complete picture of the actual anatomy of the defense industry. This is in line with the theory of industrial economists who use a microeconomic approach and empirical observation. Understanding the market structure in economics can be explained as a discussion related to the environment in which the market operates (Ferguson & Ferguson, 1944). The environment discusses the number of producers or companies, the cost function, the profit function, and the constraints that limit the entry of a producer into an industry (barrier to entry).

The market structure is known in several types of markets, such as competitive markets, oligopoly, and monopoly. These three market structures are often found to analyze various defense industry products. However, it is also important to understand the market structure as a basis for discussing other market forms that are often encountered in practice.

In general, the Defense Industry can be defined as a meeting place between producers and consumers of defense products and their supporting industries. The market as a meeting place sometimes requires a link chain such as agents, distributors, exporters, and importers. Supporting the defense industry, on the one hand, is needed to meet production factors and on the other hand, defense industry products are needed to support the existence of other industries. In the defense industry, monopoly, oligopoly, and competitive markets are heavily influenced by internal and external factors of the company (Yusgiantoro, 2014).

Internal factors

1. Factors of production that are closely related to costs are able to produce goods and services at their economies of scale, and reduce production costs from other producers, so that they behave as natural monopolies.
2. The task factor from another company or from the parent company, or a merger with a dominant company in an oligopoly market, causes a producer to control several main production factors.

3. The factor of competition with competing companies through the creation of barriers, such as in controlling product sales with very low price reductions, making it difficult to compete.

External factors

1. The interest factor in controlling production capacity and providing protection or protection, the government in granting monopoly rights to one particular producer to produce public goods.
2. The factor of obtaining patent rights by a company allows the company to behave in a monopoly. In general, a country grants patents that are protected by law.
3. The concession permit factor is given by the government to a company to operate certain services or activities.

In an oligopoly market, there are only a few producers, not as many as in perfect competition. Sometimes, some of these producers consist of dominant large producers and small producers as competitors. An oligopoly market is a market with a structure that is in between a monopoly and a perfectly competitive market. Because of its position, oligopoly market behavior is difficult to explain only by economic theory. Rising prices are likely to encourage consumers to leave the market, just as happens in a monopoly market. However, what is feared in an oligopoly market is that consumers leave big producers and may switch to buying goods from small producers, threatening the dominance of big producers. Therefore, large producers need to pay close attention to the behavior and reactions of small producers, so that dominance in the oligopoly market can be maintained. Large companies become dominant because they are supported by low marginal costs in producing goods.

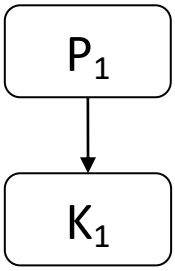

Figure 1. Monopoly - Monopsony

Figure 1. shows single seller P1 (monopoly) and single buyer K1 (monopsony). This can happen because the seller has a product that is very much needed and is in accordance with the technical specifications of the buyer, or because of the transfer of technology that is open to the interests of the buyer, which in a certain period of time can develop itself, or is independent in continuing the development of defense equipment. An example is light transport aircraft, currently the manufacturer is PT DI and the consumer is the Indonesian Air Force. This aircraft was designed as a military aircraft, so it is not used for civil aviation.

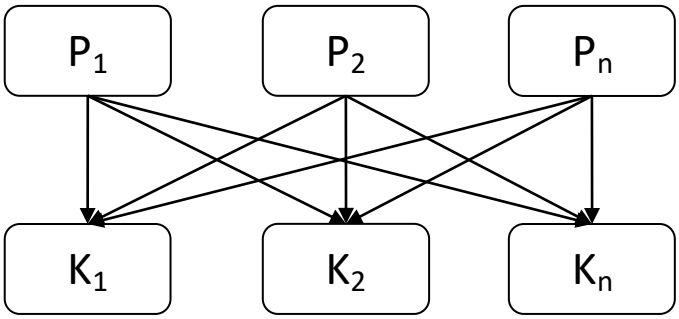

Figure 2. Oligopoly - Oligopsoni

The figure shows several sellers of P1, P2, …Pn (oligopoly) and several buyers of K1, K2, …Kn (oligopsony). This happens in the defense industry, which is indeed a technology-intensive category, so there are not many producers. Because consumers are only the military, which requires defense equipment products in the context of national defense, oligopsony here can be interpreted as countries that want defense equipment products. Manufacturers from various defense industries in various countries, which produce defense equipment with the same technical specifications. Analysis using this instrument, can be done to describe the business relationship between two or more countries, even for the domestic market.

Company Merger

Companies in the commercial industry are not much different from the defense industry, the only difference is the type of production from the defense industry, namely defense equipment, although, there is also a non-defense equipment industry, including textiles for military uniforms, protective hats, helmets, military equipment, air umbrellas. In other commercial industries, there is an intention to combine two or more companies to minimize costs or maximize profits. Another reason for the merger of the two companies can also be related to the factors of production, and the specific objectives of the company. Therefore, some companies want to do mergers or acquisitions.

Merger is a merger of two or more companies, where the name of the new company can use the name of the company that did the merger. Other company names, including assets removed and those belonging to the company, where the name remains listed. Companies whose names are still listed have a better reputation than other companies. These advantages, viewed from the aspect of liquidity, and various other advantages. Another reason for carrying out a merger is to increase capital, accelerate company growth, improve company management, and reduce company financial obligations. In contrast to acquisitions, where one or more companies are taken over by a new owner, and the company being taken over no longer exists.

The difference between a merger and an acquisition is that the merger is carried out because the company wants to be purchased by another company voluntarily based on the awareness of two or more parties. While the acquisition occurs because the company was forced to be bought by another company for certain reasons.

Integration is different from a merger, where integration is a merger of two or more companies to achieve a level of effectiveness and efficiency in their production. Both integration and merger, can be done vertically or horizontally. Vertical is meant to be a merger of companies that are interconnected but not similar, but the production process is

chained from upstream to downstream. As for horizontal, the merger occurs because the form of business is similar in the final product.

Vertical integration can be explained as the merging of two or more companies that have a continuous (chain) production process. This will ensure the availability of defense equipment components. The Law on the Defense Industry, describes in detail the various components used to produce armaments. Alutsista produced from companies engaged in more downstream activities (lead integrators) will receive a guarantee for the supply of main components, supporting components, and raw materials from companies engaged in more upstream activities. Added value and competitive prices can be obtained in vertical integration by eliminating various costs, such as transaction costs. It is not often found in the defense industry that secures chain production processes with the principle of joining upstream industries in vertical integration. Supporting industries, such as the steel industry, avionics/electronics, and machinery for building warships, rarely merge until they are vertically integrated.

The costs that can be eliminated when carrying out vertical integration are relatively small when compared to the costs required to build a defense system. An example is the construction of warships or fighter aircraft, where the largest portion of the cost lies in the main components, supports, and raw materials. In addition, the supporting industry is not easy to be in a location adjacent to the location of the defense industry.

Vertical integration motivation according to Greer (1984) can be used for research and development; opening new efficient markets, ensuring the availability of raw materials, and ensuring access to consumers; perform transfer pricing for business actors; and reduce or eliminate competitors in the market. The advantages of a merger are reduced sales costs; reduce consumer flexibility in purchasing; improve coordination in production, inter-function, and technological capabilities; and protect property rights. However, mergers have shortcomings in integrating various operations and large financial burdens at the time of starting a business.

Horizontal integration is the merging of two or more companies that have the same production processes and results. Companies that are active in upstream activities join companies that carry out upstream activities, as well as companies engaged in downstream activities. With horizontal integration, companies can increase market share and reduce costs, so they can compete with other companies. This trend occurs in the defense industry towards its economies of scale.

Similarly, horizontal integration motivation is a strategy to gain firm ownership and reduce market competition. In addition, the motivation for horizontal integration has advantages for better allocation of factors of production, namely, first, to control or control the market. Second, the economies of scale of each work unit or company, and can reduce marketing costs. In addition, horizontal integration motivation also has drawbacks, namely creating dependence on one another, and can form a monopoly market.

The government has an important role in building the defense industry, because the government is a big buyer or the sole buyer of domestically produced defense equipment (monopsony). The government can use its purchasing power to determine the size, ownership, structure, entry and exit processes, products, prices, efficiency levels, and even the profitability of the national defense industry (both BUMN and BUMS). The government strongly supports the defense industry, among others by means of special purchases through the provision of direct subsidies. Governments can also regulate the national defense industry

by controlling profits on government contracts (eg preventing excessive profits or losses). In addition, the government can also determine the price and benefits of non-competitive contracts, so that it can influence the behavior of companies by favoring non-price competition (research and development), and can control arms exports, for example through licensing.

CONCLUSION

The defense industry, like any industry, undergoes a process of growth to mature. The defense industry has various characteristics that indicate its identification in terms of the defense economy. Among the existing characteristics, it becomes a central point like corporate finance, namely the issue of costs. The cost of making defense equipment is generally expensive and tends to get more and more expensive. The market structure related to the practice of the defense industry is more emphasized on the imperfect market structure. In the defense industry, monopoly, oligopoly, and competitive markets are heavily influenced by internal and external factors of the company. In the commercial defense industry, there is an intention to combine two or more companies to minimize costs or maximize profits. Another reason for the merger of the two companies can also be related to the factors of production, and the specific objectives of the company.

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