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NON-ECONOMIC AND ECONOMIC BENEFITS IN DEFENSE

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Introduction

It is estimated that a large portion of the country's state budget is allocated to the defense sector, which includes armament, equipment, maintenance, and development of the armed forces, as well as training troops and ensuring security. These expenditures can be even greater if external threats threaten the country's security or if the country needs to strengthen its defense system.

In order to facilitate national defense, the defense sector plays a critical function in fostering stability and security within the country, which, in itself, prevents any potential wars or internal tensions that would otherwise adversely affect the economy. From a budgetary perspective, each dollar spent by the military is one that will not be spent on other public resources. Though the military itself does not manufacture material commodities, a secure environment aids in promoting economic growth by attracting investors and ensuring normal trade. This, in turn, contributes an impressive part to the economy, both economically and non-economically.

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1. Economic Benefits

1.1 Job Creation

The defense industry offers a lot of employment, both direct (in the armed forces) and indirect (in supporting industries). They range from military officers, commanders, and experts (electronics, engineering, technology, communications, and medicine) to teachers (in military academies) and even consulting and managerial jobs.

Additionally, the growth of the defense system generates operational demands for the defense industry and infrastructure, which enable the generation of new private sector jobs, for example, in the defense-industrial complex as well as in firms supplying the Ministry of Defense with a range of services and products.

In the past five years, the Republic of Armenia has been actively pursuing a policy aimed at promoting the technological development of domestic research institutes and companies involved in the design and production of armament and military equipment. This, in turn, leads to significant financial investments in this sector and the creation of jobs with various specializations. Thus, alongside the growing interest in the defense industry at the state level, highly qualified specialists are being engaged in local companies.

1.2 Development of Local Production

The local defense industry promotes the development of defense-industrial technologies, which reduces dependence on external suppliers. In turn, the development of the local defense industry can lead to an increase in exports, as defense products and components are often in demand in other countries. The growth in exports increases the flow of foreign currency into the country, which can improve the country's trade balance and economic stability. This source can be significant for the economy in countries with high demand for military products. The government can support local defense companies by providing various tax incentives and export promotion programs.

The growth in defense industry volumes can also increase state revenues, especially if the sector is under state control. This can lead to higher tax revenues, which should be directed towards the development of the public sector, such as education, healthcare, infrastructure, and more.

The defense industry can also have a positive impact on local small and medium-sized enterprises that support the defense sector with their products. Smaller producers can create subcomponents, materials, or services required by the defense sector, helping them expand their production capabilities and enter new markets.

Armenia has various defense-related productions, including the production of unmanned aerial vehicles (UAVs). For example, Armenian UAVs such as Krunk, Aragil, Bzez, and Garun-1 are achievements of the Armenian defense industry. Technological companies collaborating with the Ministry of Defense are also developing military electronics, software, and artificial intelligence (AI) solutions, which could later be used in civilian sectors as well.

1.3 Technological Innovations and Civil Applications

R&D (Research & Development) programs implemented in the defense sector often have dual-use significance, meaning that military technologies are later applied in civilian sectors. Below are several well-known examples of technologies that were initially developed exclusively for military purposes but later became an integral part of civilian life.

For a more recent example, consider that we now have drones capable of taking wedding photos and potentially delivering packages. Much of the expense of creating basic drone technology was driven by military spending.

The Internet was originally created in the 1960s and 70s by the U.S. Department of Defense as ARPANET (Advanced Research Projects Agency Network) for data exchange between various military institutions.

GPS (Global Positioning System) was initially developed by the U.S. military for military purposes, such as accurate location tracking for civilian flights, navigation, aircraft, and ammunition.

The microwave oven was originally developed during World War II for quick food preparation and temperature control for soldiers.

The Chinese company Huawei began as a producer of military communication and telecommunication technologies. However, it later became one of the largest and most well-known manufacturers of mobile devices, also playing a significant role in the civilian telecommunications market. The company produces mobile phones, smart panels, computers, and other civilian technological devices.

The Hummer was originally created for the U.S. military as a specially designed mobile and environment-resistant assault vehicle, first introduced in the 1980s as the HMMWV (High Mobility Multipurpose Wheeled Vehicle). In the 1990s, General Motors (GM) began producing civilian versions of the Hummer, making it more luxurious, powerful, and comfortable. The Gelandewagen also followed a similar path.

Some technologies developed for defense purposes in Armenia have later been applied in the civilian sector, contributing to the country's technological progress and economic development. Here are some examples:

Unmanned Aerial Vehicles (UAVs)

The development of UAVs in Armenia began based on defense needs. However, over time, these technologies found applications in the civilian sector, such as:

1. Agriculture: UAVs are used for field monitoring, crop condition assessment, and pest detection.

2. Construction and Mining: UAVs are used for mapping areas, monitoring construction work, and exploring mining sites.
3. Emergency Management: UAVs are used for area reconnaissance during disasters, planning rescue operations, and monitoring situations.

Cybersecurity Solutions

In parallel with the development of information technologies in the defense sector, cybersecurity solutions have been developed in Armenia, which were later applied in the civilian sector to ensure data protection and system security.

Radio Communication and Telecommunication Technologies

Some radio communication and telecommunication technologies created for military purposes have been adapted for civilian use, including in emergency management, telecommunications, and other fields.

These examples demonstrate that investments and developments in the defense sector can have broad applications in civilian life, contributing to the overall progress of the country.

1.4 Investments, Exports, and International Cooperation

Investments, exports, and international cooperation in the defense sector are interconnected processes that complement each other and strengthen the country's economic, technological, and strategic positions. Investments in the defense sector can be both public and private. For example, many technology giants from Silicon Valley (such as Google and Microsoft) received their first investments from Pentagon (DARPA) projects. Investments (both public and private) provide the technologies, infrastructure, and workforce necessary for production. When defense-industrial investments are made, the capabilities of local companies to create exportable products increase. The establishment of factories and research centers allows products to enter international markets.

Exports generate economic profit, which is reinvested into new investments. Revenues allow companies to make new investments by modernizing production and developing new technologies. Funds from exports contribute to the opening of new factories, retraining specialists, and financing research programs. In the case of successful exports, investors are more willing to finance the further development of the defense industry.

International cooperation facilitates investments and expands export markets with various countries. It can lead to foreign investment attraction, while defense contracts with strategic allies ensure export markets and joint development of high technologies and exchange of expertise help countries compete in the international market.

For example, South Korea collaborates with the U.S. in the field of defense technologies, resulting in U.S. investments in South Korean military companies, while South Korea exports its military products. Armenia and India cooperate in the development of military technologies, which will allow for attracting investments and later exporting.

2.5 Promotion of Infrastructure Development

The development of the defense industry requires new production infrastructure, including new factories, equipment, and high-tech production facilities. The latest technologies used in the defense industry (such as automation, complex equipment, and robots) are often transformed for use in civilian sectors, contributing to the development of civilian infrastructure. For example, developments in robotics or information technologies, which are based on military sector technologies, can also be widely adopted in other economic sectors, from healthcare to engineering.

The transportation of defense-industrial products requires improved transportation infrastructure, such as more developed roads, railways, airports, and seaports. These infrastructures, created for military and logistics purposes, are often expanded for use in civilian industries, providing more efficient transportation of goods. Moreover, these infrastructures can also accelerate activities in other economic sectors, such as tourism, trade, or humanitarian aid.

The defense industry often requires advanced logistics and supply networks designed for the transportation of large volumes of goods. These networks, consisting of distribution, storage, transportation, and servicing infrastructure, can serve not only military but also civilian sectors, enabling the creation of more efficient connections between producers and consumers, and improving market dynamics.

Information technologies, big data processing, and telecommunication systems for military purposes are constantly being improved, as they are essential for the proper functioning of military systems. Later, such advanced infrastructures can be widely applied in the civilian sector, allowing for the development of more efficient and secure connections for all types of businesses and public services (e.g., mobile communication).

However, there may be serious doubts about many of these claimed economic benefits. For economists, a major concern arises over the alternative-use value of the resources employed in the armed forces and national defense industries. It needs to be asked whether the resources used in the military-industrial complex would make a greater contribution to jobs, technology, spin-offs, and exports if these resources were used elsewhere in the economy.

2. Non-Economic Benefits

Defense spending also contributes major non-economic benefits to a nation, and it might be that the non-economic benefits are valued more highly than the economic benefits. Non-economic benefits do not contribute to national output. They comprise political, military-strategic, and international benefits. These include the ability to pursue national interests and foreign policy objectives; adding to a country's international reputation, standing, and status in the world (the feel-good factor); and its position in the world power hierarchy. These non-economic benefits might be reflected in a nation's position in the United Nations (e.g., membership in the Security Council), its membership in world economic organizations (e.g., OECD, IMF, G-8, and G-20 groups of nations), its leadership positions in international military alliances (e.g., NATO), and its ability to influence the behavior of other nations. There are military-strategic benefits from bilateral or multilateral military alliances (e.g., benefits from standardization of equipment and tactics; some of these benefits are economic in the form of cost savings). A nation can obtain further non-economic benefits in the form of prestige and international reputation by providing military forces for international peacekeeping and peace enforcement, leading to world peace. However such peacekeeping contributions are not costless. Further non-economic benefits arise where a nation's armed forces contribute to international efforts on humanitarian aid and disaster relief: these contributions provide a "feel good" factor for the contributing nation's citizens.

The non-economic benefits of the defense sector impact national security, international relations, scientific and technological progress, as well as the social stability of society.

2.1 National Security and Stability

The primary purpose of defense spending is to protect national security and state sovereignty, which are the main prerequisites for stable economic development. Strong defense capabilities prevent external aggressions and ensure the territorial integrity of the country.

1. The presence of defense forces prevents external aggression and strategic threats.
2. The military and law enforcement agencies play a crucial role in ensuring internal security by combating terrorism, illegal arms trafficking, and uprisings.
3. The effective functioning of the armed forces is especially important for countries facing geopolitical threats.

A high level of security reduces social tension, improving the quality of life for the population. As an example, Israel's Iron Dome missile defense system has played an important role in maintaining societal security and political stability by neutralizing the threat of missile attacks.

2.2 Impact on International Politics

Military power is not only a tool for security but also for diplomatic influence for countries. Military power increases a state's diplomatic weight in international relations. Arms exports and defense cooperation contribute to the formation of strategic partnerships, which enhance the country's position on the international stage.

1. Defense capabilities allow states to become active players in international politics.
2. Arms exports and defense cooperation can form strategic partnerships.
3. Countries with high military capabilities increase their influence in international negotiations.

The military power of the United Kingdom and France allows them to play an influential role in the United Nations Security Council. NATO member countries have greater influence on global politics through their collective military capabilities, determining security priorities.

2.3 Scientific and Technological Development

The defense industry stimulates the development of science and technology, which also impacts the civilian sector. The process of developing defense technologies promotes the advancement of scientific and engineering research, leading to innovations and technological growth.

1. Defense research often results in technological innovations in the civilian sector (spillover effects).
2. Defense research encourages the spread of innovations across various sectors.
3. Defense programs promote the growth of scientific and engineering education, which, in turn, enhances the role of scientific institutions.

2.4 Improvement of Education and Workforce Quality

The development of the defense sector requires highly qualified specialists, which promotes improvements in the educational system. Additionally, military service contributes to strengthening patriotism and national identity.

1. The development of military technologies requires high-tech knowledge, which boosts engineering education.
2. Military training enhances human capital development.
3. The defense industry creates jobs in high-tech sectors.
4. The demand from the defense sector contributes to the growth of engineering, scientific, and technological education.

5. The knowledge gained from the military sector can be applied in other strategic fields, such as medicine, energy, and information technologies.

2.5 Strengthening of Crisis Management

Defense forces have not only military but also rescue and emergency management functions.

The military played a crucial role in the rescue and recovery efforts following the Spitak earthquake that struck Armenia on December 7, 1988—the most devastating natural disaster in the region, causing widespread destruction and loss of life. Some of the key contributions of the military during this time included search and rescue operations, logistical support, medical assistance, establishing temporary shelters, maintaining order and security, recovery, and reconstruction.

Another example is how the U.S. military used its logistical resources during the COVID-19 pandemic to build hospitals and distribute vaccines.

The military plays a crucial role in peacekeeping and humanitarian missions. Armenia has also been involved in several peacekeeping operations and humanitarian missions, contributing to international stability and demonstrating its commitment to global security, despite not being a member of NATO. Armenia's peacekeeping efforts have mostly been focused on areas like Afghanistan, Kosovo, Syria, Mali, and Lebanon.

1. Defense technologies can be used for civil protection.
2. Military technologies and infrastructure can be used for civilian needs.

Conclusion

In conclusion, defense investments provide a combination of economic and non-economic benefits that contribute to national security, stability, and development. Economically, defense spending generates employment opportunities in various sectors, from manufacturing to research and development, stimulating both local and national economies. It also fosters technological innovation, with advancements in aerospace, cybersecurity, and artificial intelligence often leading to commercial applications that drive broader economic growth. Additionally, a strong defense sector attracts foreign investments and strengthens industrial supply chains, enhancing a nation's global competitiveness.

Beryond economic factors, the non-economic benefits of defense are equally significant. A well-funded and strategically managed defense system ensures national sovereignty by deterring potential threats and safeguarding territorial integrity. It also plays a crucial role in maintaining international peace and stability, allowing for diplomatic influence and strategic alliances. Moreover, national defense fosters public confidence, as citizens feel secure in their daily lives, which contributes to social cohesion and overall well-being. Ultimately, a balanced approach to defense investment is necessary, ensuring that economic growth and security needs are met without compromising other vital sectors. By leveraging both economic and non-economic benefits, a country can build a resilient and prosperous society while maintaining a strong national defense.

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