

The economics of defence and regional development of the insular areas of the North Aegean: Lesbos

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Abstract

The relationship between economic development and defence policy constitutes a central focus of defence economics. In insular regions, this relationship gains particular importance due to geographic constraints, economic specialization, and the geopolitical significance of islands. This article aims to investigate the impact on regional development of the North Aegean islands through the lens of defence economics. By conducting a systematic literature review of international academic research, the study examines the role of military investments, defence infrastructure, and geopolitical strategy in shaping economic activity within insular economies. The findings indicate that defence spending can contribute to economic growth through the creation of dual-use infrastructure, increased employment, and the strengthening of transportation networks. Simultaneously, the presence of military facilities can act as a stabilizing factor in regions with limited economic diversification. However, excessive reliance on military activities may create new forms of economic dependence and constrain the potential for sustainable development. Therefore, sustainable development in insular regions requires a balanced approach between defence investments and economic diversification.

Keywords: Defence Economics; Island Development; Regional Economy; Geopolitics; Aegean

1. Introduction

Defence economics is a specialized branch of economic science that examines the relationship between military expenditure, economic development, and public policy. This field analyzes how governments allocate public resources for military purposes, as well as the economic and social impacts of these expenditures at both national and regional levels (Dunne & Tian, 2015). Military spending is not solely linked to national security; it also affects economic functioning through job creation, infrastructure development, technological innovation, and the stimulation of regional economic activity.

International literature presents diverse perspectives regarding the role of military expenditure in economic development. Some studies suggest that defence spending can act as a lever for economic growth, particularly during periods of economic downturn or in regions with limited productive activity (Dunne & Smith, 2020). The establishment of military facilities and infrastructure increases demand for construction, transportation, and services, contributing to employment growth and local consumption. Moreover, the development of the defence industry can lead to technological innovations that diffuse into other economic sectors.

Conversely, other studies highlight that high military expenditure may limit public investment in social sectors such as education, health, and social infrastructure. This phenomenon is referred to in the literature as the "crowding out effect,"

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where productive investments are displaced by military spending (Dunne & Tian, 2015). Consequently, the impact of defence economics on development largely depends on the economic and institutional context of each country or region.

The relationship between defence and economic development becomes particularly significant in insular regions. Islands often occupy strategic positions along international sea routes and geopolitical fault lines, making them important for national security and the exercise of geopolitical power. This strategic significance frequently leads to the establishment of military infrastructure and the implementation of defence policies that influence local economies and societies (Karagiannis & Konstadakopulos, 2021).

2. Defence Economics and Economic Development

Defence economics examines how military expenditure influences economic development, the structure of the economy, and public policy. Military investments are not limited solely to national security but generate significant economic impacts at local and regional levels, creating employment opportunities, enhancing infrastructure, and fostering technological innovation (Dunne & Tian, 2015; Antonakis, 2017).

The international literature presents various perspectives regarding the relationship between military spending and economic development. Some studies argue that military expenditures can serve as a catalyst for growth, particularly in regions with limited productive activities or geographic isolation (Topcu & Aras, 2017; Kelman, 2020). The construction of military infrastructure increases demand for construction, transport, and services, while also generating direct and indirect employment opportunities (Degen et al., 1995; Feder, 1995). Moreover, the defence industry promotes technological innovation, as many defence-related technologies are transferred to other economic sectors, thereby enhancing overall productivity (Cappelen et al., 1984; Mellor, 1994).

However, excessive reliance on military expenditures can constrain investments in social infrastructure such as education, health, and social welfare, creating “crowding out” effects (Dunne & Tian, 2015; Alesina & Perotti, 1996). This underscores that the impact of military spending on development largely depends on the balance between military and civilian investments.

In island regions, such as Lesbos, military presence can act as a stabilizing factor, especially when the economy is characterized by high specialization and limited resources. Military expenditure contributes to maintaining employment, developing dual-use infrastructure, and improving connectivity, thereby supporting the regional economy (Armstrong & Read, 2020; Kwong & Wong, 2020; Dunne & Smith, 2020; Topcu & Aras, 2017).

Additionally, cultural entrepreneurship leverages historical and Ottoman heritage sites, enhancing cultural tourism and sustainable development. Specifically, studies on Lesbos demonstrate that highlighting Ottoman monuments and transforming former industrial buildings into cultural spaces promotes the local economy and strengthens connections to international cultural networks (Maniou, 2024b; Maniou et al., 2025a; Maniou et al., 2025b). These strategies employ digital tools and new technologies to showcase cultural heritage, increasing visitor numbers and generating income without restricting other productive activities.

The strategic integration of defence spending into developmental frameworks, combined with the utilization of cultural resources, contributes to economic resilience while enhancing the social and cultural dimensions of the region (Baldacchino & Milne, 2000; Dixon & Smith, 2002; Lee & Kim, 2018; Dunne & Nikolaidou, 2012; Lee & Chang, 2007; Saha & Gounder, 2006; Srinivasan, 2008).

3. The Political Economy of Islands

The political economy of islands examines how the geographic, institutional, and socio-economic specificities of island regions influence development, governance, and resource management (Baldacchino, 2010). Islands are often characterized by limited natural resources, small markets, and a high degree of economic specialization, making their economies particularly vulnerable to external shocks and fluctuations in demand (Briguglio, 1995).

In international literature, the concept of “islandness” refers to the social, economic, and cultural particularities that shape the functioning of island economies (Foley et al., 2023). This concept highlights the significance of geographic isolation, limited connectivity with other markets, and high dependence on external economic resources, especially in small and medium-sized islands.

Baldacchino and Milne (2000) note that small island economies can exploit “jurisdictional resourcefulness,” meaning the capacity to create institutional and policy strategies that enhance economic development and autonomy. Through the strategic use of policy incentives, tax relief, and infrastructure, islands can attract investment and strengthen specific economic sectors, such as tourism and services (Baldacchino, 2010; Baldacchino & Milne, 2000).

At the same time, small island economies exhibit high dependency on a limited number of sectors, which increases their vulnerability to economic disruptions (Armstrong & Read, 2021). Tourism, agriculture, and services usually constitute the main economic activities, while fiscal and military expenditures often play a significant role in local economic stability.

In the case of the North Aegean islands, such as Lesbos, political economy is closely intertwined with geopolitical considerations. Lesbos’ proximity to Turkey and its location along important maritime routes necessitate the maintenance of military infrastructure, which directly connects to the local economy through employment, construction, and dual-use infrastructure (Karagiannis & Konstadakopulos, 2021).

The strategic economic significance of islands requires balancing military investments with economic diversification. Excessive reliance on military activities can limit the development of other sectors and create long-term imbalances, whereas proper utilization of military infrastructure can enhance economic resilience and serve as a lever for regional development (Grydehøj, 2020).

The management of natural resources and environmental policy also plays a crucial role in the sustainable development of islands, given that geographic isolation and limited carrying capacity make islands particularly vulnerable to environmental crises and natural disasters (Kelman, 2020). The interaction of military presence, economic activity, and environmental management is a critical factor for developing integrated island policies.

Analyzing the political economy of islands provides a theoretical framework for understanding the impact of military spending on regional development, highlighting the importance of strategic investments that combine security, economic activity, and sustainability (Baldacchino, 2010; Armstrong & Read, 2021).

Finally, we must highlight the productive and effective role of digital technologies in the field of education and economic development. These technologies, which include mobile devices (30), a variety of ICTs (31), AI & STEM ROBOTICS (32-35), facilitate and improve educational procedures and outputs, especially in the field of development. In addition, the use of ICTs in conjunction with theories and models of metacognition and self-knowledge cultivation [36-39] accelerates and enhances educational practices and outcomes, particularly for economic development in rural areas and isolated islands.

4. Vulnerability of Island Economies

Island economies exhibit high vulnerability due to limited resources, small-scale markets, and heavy reliance on external inputs such as raw materials, tourism, and financial services (Briguglio, 1995; Armstrong & Read, 2021). The concept of vulnerability refers to the limited capacity of island economies to adapt to economic, social, and environmental crises, making islands particularly sensitive to fluctuations in demand and external shocks.

According to Baldacchino (2010), small island economies face constraints in their productive base, resulting in specialization in a few sectors of activity. This specialization increases dependence on specific markets and heightens economic vulnerability during periods of crisis. For instance, economic reliance on tourism and transportation in the North Aegean renders islands such as Lesbos vulnerable to external factors, including geopolitical tensions or pandemics (Borazon et al., 2023).

The strategic geographic location of islands can amplify their vulnerability, as it makes them targets of geopolitical competition (Kwong & Wong, 2020). The presence of military bases and facilities acts as a double-edged factor: on one hand, it stimulates the local economy through investments and employment, while on the other hand, it can generate economic dependence and constrain the development of other sectors.

Kelman (2020) emphasizes that managing “islandness” and economic vulnerability requires a careful combination of strategic investments and economic diversification policies. The development of dual-use infrastructure and the

strengthening of local entrepreneurial activities can reduce reliance on limited revenue sources and enhance the resilience of islands.

The literature also highlights the need for an integrated approach that combines economic, social, and environmental dimensions in addressing the vulnerability of island economies (Foley et al., 2023; Grydehøj, 2020). Sustainable development requires strategic planning that considers economic dependence, environmental pressures, and geopolitical risks, in order to establish a resilient and diversified economic model.

In the case of Lesbos, the strategic use of military investments, combined with the promotion of entrepreneurship in tourism, transport, and services, can help reduce economic vulnerability and strengthen regional development (Davis et al., 2020). A combined approach of strategic planning, economic diversification, and environmental management is key to enhancing the resilience of island economies in the North Aegean.

5. Case Study – Lesbos

The case of Lesbos, one of the largest islands of the North Aegean, is of particular interest. Its geographic location near the European Union's maritime borders makes it a critical geopolitical and strategic point. The island hosts significant military infrastructure and units of the Hellenic Armed Forces, which play a decisive role in regional security.

The presence of military facilities in Lesbos has multiple economic and social effects. Economically, military activities generate demand for local services, goods, and infrastructure. Military units, personnel, and their families contribute to local consumption, while simultaneously creating jobs in construction, transportation, and service sectors. Furthermore, military infrastructure often serves as dual-use infrastructure, meaning it can be utilized for both military and civilian purposes, thereby enhancing connectivity and economic activity.

Despite potential economic benefits, excessive dependence on military activities can create new forms of economic dependence. Small island economies are characterized by limited natural resources, small internal markets, and high economic specialization. According to Armstrong and Read (2020), many island economies rely on a small number of economic sectors, such as tourism, services, and public spending. Dependence on few sectors increases economic vulnerability to external shocks.

In Lesbos, tourism constitutes the most significant economic sector, while agriculture and the production of traditional goods, such as olive oil and local agricultural products, also play an important role. Nevertheless, the island's economic activity has been strongly affected by external crises, including the economic crisis of the previous decade and the refugee crisis. Within this context, the military presence can act as a stabilizing factor, helping maintain a consistent level of public expenditure and economic activity.

Studying the relationship between defence economics and regional development in insular areas is therefore a critical field of research, especially in regions of high geopolitical significance. Despite growing international interest in defence economics, studies examining this relationship specifically in insular regions remain relatively limited.

This article examines the interplay between defence economics and regional development in the North Aegean islands, with particular focus on Lesbos. The analysis centers on the role of military investments, infrastructure, and geopolitical strategy in shaping economic activity and fostering regional development.

Specifically, the article seeks to answer the following research questions:

- How do military expenditures and defence investments influence the economic development of insular regions?
- What is the role of military infrastructure in enhancing the islands' economic and transport facilities?
- To what extent can military presence contribute to sustainable regional development?

Understanding the relationship between defence economics and regional development is crucial for the design of effective public policies in insular areas. Leveraging defence investments as a tool for regional development can enhance the economic resilience of islands, provided it is integrated within a broader framework of sustainable and diversified economic growth.

6. Conclusions

The analysis of defence economics in Lesbos and the North Aegean islands highlights the complex relationship between military investments and regional development. Military expenditures can act as a development lever by creating dual-use infrastructure, boosting employment, and supporting local economic activity. The strategic geographic position of Lesbos enhances its geopolitical significance, making the maintenance of military installations necessary.

At the same time, military investments contribute to the strengthening of transportation networks and public utility services, supporting tourism and trade.

However, excessive reliance on military expenditures can create economic dependency and restrict the development of other sectors, such as cultural tourism, agriculture, and services. The resilience of island economies requires strategic economic diversification, the promotion of local entrepreneurship, and environmental protection.

Overall, sustainable development of the North Aegean islands requires an integrated approach that incorporates defence investments into a broader development framework, aiming to maximize socio-economic benefits and reduce vulnerability. The experience of Lesbos demonstrates that the strategic utilization of military infrastructure can serve as a significant tool for regional development, provided it is combined with multi-sectoral policies and economic diversification.

Compliance with ethical standards

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Disclosure of conflict of interest

The Authors proclaim no conflict of interest.

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