

## UNDERSTANDING GLOBAL DEFENSE BUDGETING DYNAMICS: A SYSTEMATIC LITERATURE REVIEW ON ECONOMIC AND GEOPOLITICAL FACTORS

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### Abstract:

**Background:** Defense budgeting plays a critical role in shaping a nation's strategic and military capabilities, reflecting its global positioning and priorities. It is influenced by a complex intersection of global politics, security concerns, and economic factors. Understanding these dynamics is crucial for guiding national policies and strategies.

**Purpose:** This study aims to analyze the intricate factors shaping military expenditures globally, with a focus on understanding the role of Gross Domestic Product (GDP) growth, geopolitical tensions, and international political dynamics.

**Design/methodology/approach:** The research employs a systematic literature review (SLR) guided by the PRISMA protocol to synthesize insights from existing studies. Utilizes Scopus-indexed journals to ensure the quality and reliability of the literature.

**Findings/Results:** The findings highlight GDP growth as a central determinant of military expenditure, influenced by geopolitical interdependencies and regional dynamics. Theoretical frameworks, such as "Realist Theory" and "Neoclassical Theory," frequently appear in the literature, emphasizing the interplay between economic and defense paradigms.

**Conclusion:** Defense budgeting is shaped by multidimensional factors, requiring further research with broader data sources and regional focus.

**Originality/value (State of the art):** This study provides a systematic synthesis of defense expenditure dynamics, bridging gaps in economic and geopolitical perspectives.

**Keywords:** defense budget, military expenditure, Gross Domestic Product (GDP), defense economics, Systematic Literature Review (SLR)

### How to Cite:

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## INTRODUCTION

Defense budgeting remains a critical aspect of national policy, intricately linked to global politics, security concerns, and economic complexities. However, the lack of a unified framework to analyze how these factors interact leads to fragmented insights across existing studies. This study highlights defense budgeting as the financial facilitation of defense activities, encompassing planning, implementation, and auditing. The allocation of such budgets is influenced by numerous factors, both internal and external to the state. These factors include geopolitical threats, governance challenges, and economic constraints, yet their combined impact lacks consistent analytical treatment in the literature. Thus, the magnitude of military expenditure becomes not only a reflection of a nation's military capability but also a key indicator of its strategic positioning in global affairs (Mastura, 2018).

The financial expression of defense objectives, as outlined by Ansari (2019) underscores the imperative to channel resources effectively to achieve strategic ends. Budgeting in the defense sector is complicated due to factors like changing geopolitical situations, limited funds, technology changes, and differing public interests. For an effective defense budget, it's important to plan flexibly, assess threats properly, understand political dynamics, and maintain transparent processes

In developing nations, the distribution of military expenditures plays a pivotal role in comprehensive budgetary strategies. Several factors influence defense spending in these nations. Security concerns have a significant impact, as internal conflicts, border disputes, and terrorism require a higher proportion of military expenditure to address these pressing challenges (Sutrasna, 2022). Economic growth is also a consideration, as countries experiencing higher growth tend to allocate more resources to defense (Khalid and Mustapha, 2014). Governance issues like corruption and political instability shape defense budget allocation, with military elites sometimes prioritizing their share of government expenditure. International relations play a role as well, with perceived threats or the desire for regional power influencing defense budgets. Technological advancements also impact allocation, as countries invest in military research and development to maintain capabilities.

The methodology employed for this research involved a systematic literature review on budget defense. A thorough search was conducted to identify relevant studies, which is a critical step in minimizing bias in the review process. The search process utilized various methods to identify studies, manage the retrieved references, obtain necessary documents, and document the search procedure. The search strategy was carefully structured based on the research question, and search filters for study design were utilized to refine the search results.

In this systematic literature review, we seek answers to the following research questions:

- RQ1: What are the determinant factors in defense budgeting, and how are they depicted in the existing literature?
- RQ2: How are the methodologies and theoretical frameworks applied in the study of military expenditure?
- RQ3: What does the literature reveal about military expenditure across different nations?
- RQ4: What are the theories used to explain military expenditures?

The subsequent sections of this article are structured as follows: The "Conceptual Background" section introduces and elaborates on the primary concepts underpinning our research. This is followed by the "Methodological Process" section, detailing each phase of our systematic review. The "Results" section bifurcates into two parts; first is the "Bibliometric Analysis," which leans on graphics from Scopus for visual representation, and the second part, "Content Analysis," provides a comprehensive overview of the current state of research in the field. We conclude by discussing the theoretical and practical implications, research limitations, and offering suggestions for future studies.

## METHOD

This article is anchored in a systematic literature review (SLR) and adheres to the guidelines outlined by the preferred reporting items for systematic reviews (PRISMA) protocol. We opted for the systematic review approach, as it serves to integrate the comprehensive existing research, offering insights in a manner that is "transparent, scientific, and replicable" (Lame, 2019). Utilizing this approach is particularly pertinent

for understanding the myriad of ideas, debates, and concepts related to the determinants of defense budgeting. The research was conducted over a period of six months, from March to September 2024, entirely online. Relevant articles were sourced exclusively from Scopus-indexed journals published within the last 10 years (2014–2024) to ensure the inclusion of up-to-date and high-quality studies. Our alignment with the principles of SLR is meticulously detailed through the PRISMA protocol, presented in Figure 1.

In conducting our systematic literature review (SLR) on defense budgeting and military expenditures, we began by sourcing relevant studies from select databases. An initial search yielded 428 potential studies. To ascertain their relevance, we meticulously assessed each study's title, abstract, and keywords. This scrutiny led to the exclusion of some studies, narrowing our pool to 179. Subsequent criteria, such as language and publication date, further refined our selection, resulting in 76 pertinent studies. Upon a thorough review, 53 studies met all our specified criteria and were thus included in our SLR. These chosen studies provided the foundational knowledge and insights that informed our comprehensive analysis of the research topic.

While systematic literature reviews (SLRs) typically draw from multiple databases to maximize the inclusion of relevant studies, our approach centered on a single

database: Scopus Elsevier. Scopus Elsevier was chosen because of its comprehensive offering of abstracts, citations, and a rich array of scholarly articles, making research more accessible and credible. It holds a particular advantage in emphasizing the humanities and social sciences, compared to other databases like ScienceDirect, or Web of Science. Moreover, while Scopus might have narrower coverage than broader tools like Google Scholar, it stands out with its peer-reviewed articles, often synonymous with high quality, and provides advanced search and filtering options (Martín-Martín et al. 2021)

Building on our methodology, the selected database guided our approach in sourcing the relevant literature on defense budgeting and military expenditures. This systematic approach ensured the comprehensiveness and rigor of our review process.

## RESULTS

In this section, we present the outcomes derived from our in-depth literature analysis, addressing the study's initial two research questions: RQ1 and RQ2. The first delves into the descriptive overview of the selected articles, capturing essential attributes and characteristics. The subsequent segment offers a more detailed analysis of the articles.

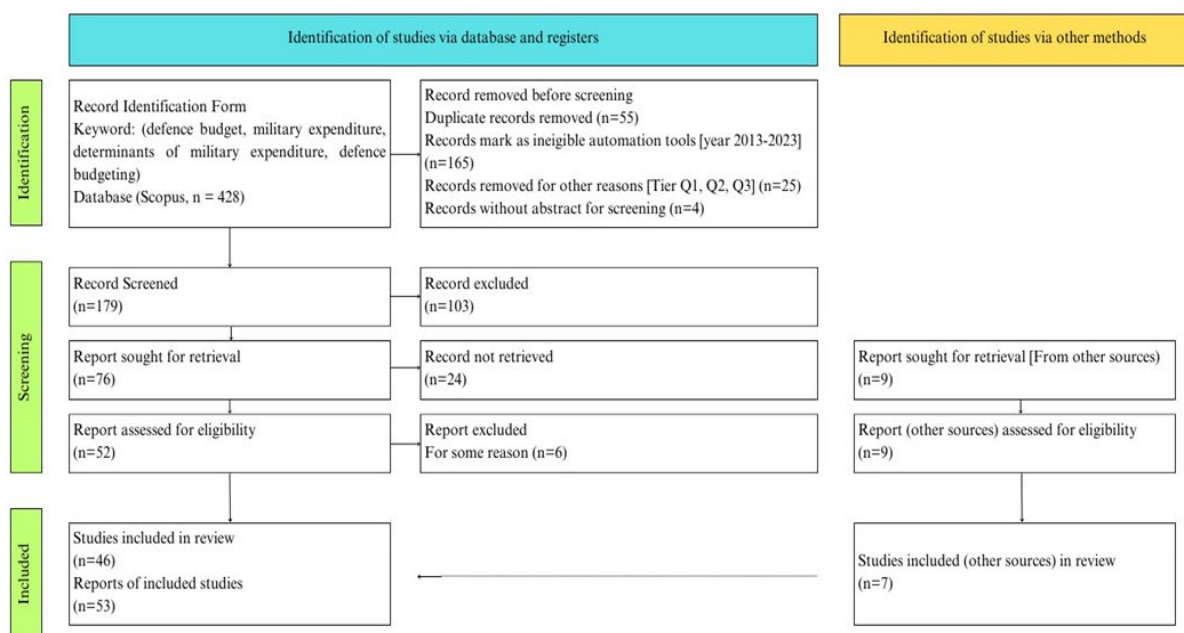


Figure 1. PRISMA protocol

## Article Description

After a comprehensive selection process, a total of 53 articles were subjected to further analysis. A breakdown of these articles was carried out using Scopus, categorizing them by publication year, source title, and country of origin, as illustrated in Figure 2. A significant bulk of the publications, constituting 31.48%, emerged in the period 2017-2018. This was followed closely by the years 2019-2020, with a contribution of 27.77%. Given that our review only spanned articles published up to July 2021, the representation for the year 2021 (16.67%) might have been even more substantial if the entirety of the year's publications had been considered. Going further back, the years 2013-2014 saw a contribution of 12.96%, which witnessed a slight dip in 2015-2016 to 11.11%. It's worth noting that this data not only reflects the evolution of research on the topic but also hints at the heightened interest and focus on defense budgeting in the more recent year.

In this study, we examined the publication sources of several articles, using a criterion of at least two articles and two citations for each source (as shown in Figure 3). Our findings indicated that "Defence and Peace Economics" was the most cited journal, with 307 citations. This was followed by the "Journal of Peace Research" with 37 citations and "Quality & Quantity" with 36 citations. Other journals like "Defence Studies" had 22 citations, "Resources Policy" had 21 citations, and both "Armed Forces & Society" and "Peace Economics Peace Science and Public Policy" had 18 citations each. Additional journals such as "International Economic Journal," "Environmental

Science and Pollution Research," and "Public Choice" contributed with 17, 16, and 13 citations, respectively. The high number of citations for "Defence and Peace Economics" highlights its significant role in defense budgeting research. Authors and citation based on year and rank in Table 1.

In evaluating the research methodologies of the selected articles, we discerned distinct patterns. Quantitative research proved to be overwhelmingly predominant, accounting for a remarkable 88.9% (or 47 articles) of the total (Table 2). This is indicative of the empirical nature of studies in this domain. In contrast, qualitative methodologies were notably less frequent, comprising merely 3.7% (or 2 articles). A further 7.4% (or 4 articles) opted for a mixed-methods research approach, integrating elements from both quantitative and qualitative methodologies, showcasing the intricacy and depth of their investigations. The detailed breakdown of the theoretical and methodological frameworks harnessed by these studies can be found in.

In this research, we examined the utilization of theoretical frameworks in the articles under consideration. Notably, of the articles reviewed, 12 (or 71%) adopted a singular theoretical approach in their discussions. Conversely, 5 articles (representing 29%) opted for multiple theoretical stances in their analysis (Table 3). This reveals a prevailing trend in the surveyed literature: while the majority leans towards a singular theoretical lens, a significant portion also integrates multiple theoretical perspectives to provide a more comprehensive understanding. Description of the theory focus in Table 4.

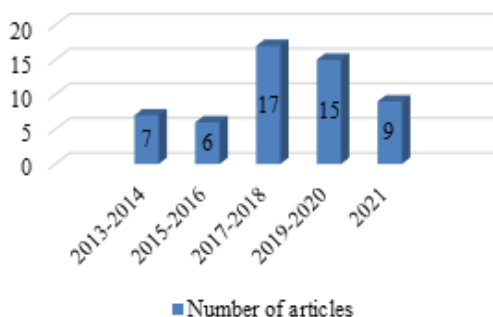


Figure 2. Analysis of search results based on scopus

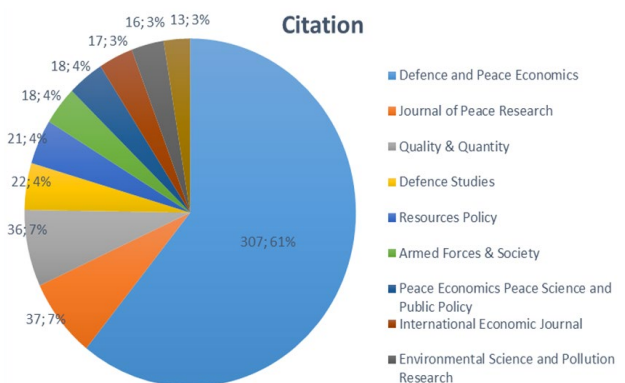


Figure 3. Documents and citations of selected sources

Table 1. Authors and citation based on year and rank

Authors	Year	Journal	Citation	Rank	Authors	Year	Journal	Citation	Rank
Bove and Brauner	2014	Defence and Peace Economics	43	Q2	Simon et al.	2017	Armed Forces & Society	5	Q2
Yesilyurt and Elhorst	2017	Journal of Peace Research	36	Q1	Pacific et al.	2017	Global Business Review	5	Q2
Saba and Ngepah	2019	Quality & Quantity	32	Q1	Lin and Wang	2019	Quality & Quantity	4	Q1
Yildirim and Öcal	2014	Defence and Peace Economics	31	Q2	Hou and Chen	2014	Peace Economics, Peace Science and Public Policy	3	Q3
Ali and Abdellatif	2013	Defence and Peace Economics	26	Q2	Hou	2018	Peace Economics, Peace Science and Public Policy	3	Q3
Aye et al.	2014	Defence and Peace Economics	22	Q2	Elveren and Taşlan	2021	Peace Economics, Peace Science and Public Policy	3	Q3
Christie	2017	Defence and Peace Economics	22	Q2	Odehnal et al.	2021	Economies	3	Q2
Saba and Ngepah	2019	Economic Research-Ekonomska Istraživanja	22	Q2	Armey and McNab	2017	Defence and Peace Economics	2	Q2
Pamp and Thurner	2017	Defence and Peace Economics	19	Q2	Aben and Fontanel	2018	Defence and Peace Economics	2	Q2
Skogstad	2015	Defence and Peace Economics	18	Q2	Ferraz	2020	Defence and Peace Economics	2	Q2
Azam and Feng	2015	Defence and Peace Economics	18	Q2	Saba and Ngepah	2021	African Security Review	2	Q2
Yesilyurt and Yesilyurt	2019	Journal of Peace Research	18	Q1	Vallejo-Rosero et al.	2020	Mathematics	2	Q2
Saba and Ngepah	2019	International Economic Journal	17	Q2	Kawaura	2018	Journal of Asian Economics	1	Q2
Erdoğan, et al.	2020	Environmental Science and Pollution Research	16	Q1	Schroeder	2017	Orbis	1	Q3
Bakirtas and Akpolat	2020	Resources Policy	16	Q1	Hou and Chi	2021	Defence and Peace Economics	1	Q2
Kauder and Potrafke	2015	Defence and Peace Economics	16	Q2	Arif et al.	2019	Journal of Financial Crime	1	Q2
Solarin	2017	Defence and Peace Economics	16	Q2	Sarwar and Idrees	2021	Journal of Asian and African Studies	1	Q2
Dunne and Smith	2019	Defence and Peace Economics	16	Q2	Cook	2013	Orbis	0	Q3
Markowski et al.	2017	Defence and Peace Economics	15	Q2	Seki	2017	Defence and Peace Economics	0	Q2
Pamp et al.	2018	Public Choice	13	Q1	Bove and Nisticò	2014	Journal of Comparative Economics	51	Q1
Wolde-Rufael	2015	Defence and Peace Economics	10	Q2	Neubauer and Odehnal	2018	Defence and Peace Economics	4	Q2
Wang and Su	2021	Energy Strategy Reviews	8	Q1	Kuokštytė et al.	2020	European Security	9	Q1
Sauer	2015	Defence Studies	8	Q1	Yalta and Tüzün	2020	Defence and Peace Economics	4	Q2
Graham and Mueller	2019	Peace Economics, Peace Science and Public Policy	7	Q3	Josselin and Malizard	2021	Defence and Peace Economics	1	Q2
George et al.	2018	Defence and Peace Economics	6	Q2	Yalta and Yalta	2021	Defence and Peace Economics	0	Q2
Do	2021	Resources Policy	5	Q1	Kollias et al.	2018	Russian Journal of Economics	4	Q2
Zhong et al.	2016	Defence and Peace Economics	5	Q2					

Table 2. Most common research methodologies

Research approach	Number of articles	Percentage
Quantitative	47	88.9
Qualitative	2	3.7
Mixed	4	7.4
Total	53	100%

Table 3. Most common research theories

Theory	Number of articles	Percentage
Single theory	12	71%
Multiple	5	29%
total	17	100%

Table 4. Description of the theory focus

Single Theory	Multiples theory
<ul style="list-style-type: none"> <li>• Realist theory (Yildirim and Öcal, 2016)</li> <li>• Neoclassical theory (Hou and Chi, 2022; Saba and Ngepah, 2021, 2019a; Solarin, 2018; Yildirim and Öcal, 2016)</li> <li>• Standard Keynesian theory (Yesilyurt and Elhorst, 2017)</li> <li>• Economic theory (Do, 2021; Pamp and Thurner, 2017; Saba and Ngepah, 2019a; Yalta and Yalta, 2022; Yesilyurt and Elhorst, 2017)</li> <li>• International relations theory (Yesilyurt &amp; Elhorst, 2017)</li> <li>• Political trilemma of world economy (Sarwar and Idrees, 2022)</li> <li>• Democratic peace theory (Pamp and Thurner, 2017)</li> <li>• Economic Theory of Alliances (Kauder and Potrafke, 2016)</li> <li>• Theory of dictatorship (Bove and Nisticò, 2014)</li> <li>• The Theory of Alliances (Yalta and Tüzün, 2021)</li> <li>• Classical economic theory of alliances (Kuokštytė et al., 2021)</li> <li>• Bureaucratic politics (Bove and Nisticò, 2014)</li> </ul>	<ul style="list-style-type: none"> <li>• Realist theory and Neoclassical theory (Yildirim and Öcal, 2016)</li> <li>• Neoclassical theory and Economic theory (Saba and Ngepah, 2019b)</li> <li>• Economic theory and International relations theory (Yesilyurt and Elhorst, 2017)</li> <li>• Leibenstein's Theory of Critical Minimum Effort, Nelson's Theory of Low Equilibrium Trap, Rosenstein-Rodan's Theory of The Big Push, The Doctrine of Balance Growth and Hausman's Doctrine of Unbalanced Growth (Saba and Ngepah, 2020)</li> <li>• Economic theory and The Theory of Alliances (Yalta and Tüzün, 2021)</li> </ul>

## Article Analysis

The articles were systematically analyzed by categorizing them based on the country (first column), with military expenditure serving as the dependent variable (second column), and then as the independent variable (third column). The comprehensive breakdown of these articles is showcased in Table 5.

## Country Focus Analysis

Research on the determinants of military expenditure (ME) is geographically extensive, with studies covering various regions. A significant portion of the research, constituting 14 articles, provides a global perspective on the factors influencing ME. Delving into regional specifics, Europe, NATO countries, Asia Pacific and Oceania, the Americas, African nations, BRICS blojc, OECD countries, and the GCG & OPEC countries have all been subjects of study. In the Asia Pacific, countries like South Korea and Taiwan are particularly emphasized. These studies shed light on the region's military expenditure dynamics, driven by geopolitical tensions, economic growth, and regional rivalries (Wolde-Rufael, 2016; Lin & Wang, 2019; Azam & Feng, 2017). Africa, with its complex socio-political landscape, is another focal region with 8 articles. These delve into the intertwined roles of resources, regional conflicts, and industrialization on military spending (Saba & Ngepah, 2019a, 2019b, 2020, 2021). Furthermore, countries like Portugal, the US, and Russia each present their unique set of geopolitical and economic considerations impacting ME, as highlighted in three distinct articles (Ferraz, 2022; Zhong et al. 2017).

## Military Expenditure as Dependent Variable Analysis

Analyzing military expenditure as a dependent variable, several critical factors emerge from the accumulated literature. GDP growth positively influences military expenditure, as indicated by 9 articles. This is further expanded upon in studies that delve into how resources, both natural and arms imports, play a role in influencing military spending. Interestingly, the presence of military regimes, political structure (like autocracy), and the activities of neighboring nations, such as their military expenditure, also have a pronounced influence on military expenditure. These variables are explored across a spectrum of 28 articles, showcasing the

multifaceted dynamics that impact defense budgets. The most dominant factor, however, remains GDP and its growth, repeatedly highlighted across the literature as a principal determinant of military expenditure.

### Military Expenditure as Independent Variable Analysis

Flipping the perspective to view military expenditure as an independent variable provides a distinct set of insights. Military expenditure has demonstrated influence over a host of variables, including income inequality index, human development, and even a nation's profit rate, as elucidated by two articles

(Elveren and Taşlıran, 2021; Vallejo-Rosero et al. 2021) This underlines the broader socio-economic implications of defense spending. Moreover, military expenditure's influence extends to areas like industrialization, globalization, and security, with five articles emphasizing these relationships (Saba and Ngepah, 2021, 2020; Sarwar and Idrees, 2022). The most recurring theme across the studies remains the impact of military expenditure on GDP growth and related economic indices, suggesting that the ramifications of military spending decisions permeate beyond the defense realm and influence wider economic trajectories.

Table 5. Article Analysis

Country	Findings (Military Expenditure As Dependent Variable)	Findings (Military Expenditure As Independent Variable)
<p><b>GLOBAL SCALE:</b> 14 Articles : (Arif et al., 2019; Arney and McNab, 2019; Bove and Brauner, 2016; Bove and Nisticò, 2014; Christie, 2019; Do, 2021; Elveren and Taşlıran, 2021; Pamp et al., 2018; Pamp and Thurner, 2017; Skogstad, 2016; Solarin, 2018; Vallejo-Rosero et al., 2021; Yesilyurt and Yesilyurt, 2019; Yildirim and Öcal, 2016)</p> <p><b>EUROPE</b> 9 Articles : (Christie, 2019; Ferraz, 2022; Josselin and Malizard, 2022; Kauder and Potrafke, 2016; Kollias et al., 2018; Kuokšytė et al., 2021; Neubauer and Odehnal, 2018; Sauer, 2015; Yesilyurt and Yesilyurt, 2019)</p> <p><b>ASIAN, ASIA PACIFIC AND OCEANIA</b> 9 Articles : (Azam and Feng, 2017; George et al., 2019; Hou, 2018; Hou and Chi, 2022; Kawaura, 2018; Lin and Wang, 2019; Markowski et al., 2017; Wang and Su, 2021; Wolde-Rufael, 2016)</p> <p><b>NATO COUNTRIES</b> 3 Articles: (Kauder and Potrafke, 2016; Odehnal et al., 2021; Vallejo-Rosero et al., 2021)</p> <p><b>AMERICAN COUNTRIES</b> 3 Article: (Neubauer and Odehnal, 2018; Yalta and Tüzün, 2021; Yesilyurt and Elhorst, 2017)</p>	<p><b>ECONOMIC FACTORS</b></p> <ul style="list-style-type: none"> <li>• GDP Growth Positively Influences Military Expenditure: 9 Articles (Erdoğan et al., 2020; Markowski et al., 2017; Pamp &amp; Thurner, 2017; Solarin, 2018; Vallejo-Rosero et al., 2021; Yalta &amp; Tüzün, 2021; Yalta &amp; Yalta, 2022; Zhong et al., 2017; Neubauer &amp; Odehnal, 2018)</li> <li>• GDP Negatively Influences Military Expenditure: 5 Articles (Ali and Abdellatif, 2015; Bove and Nisticò, 2014; Neubauer and Odehnal, 2018; Saba and Ngepah, 2019b; Yalta and Yalta, 2022)</li> <li>• GDP Positively Influences Military Expenditure: 5 Articles (George et al., 2019; Hou, 2018; Josselin and Malizard, 2022; Yalta and Yalta, 2022; Yesilyurt and Elhorst, 2017)</li> <li>• Natural Resources Rent Positively Influence Military Expenditure: 2 articles (Ali and Abdellatif, 2015; Do, 2021)</li> <li>• Healthcare Cost Influences Military Expenditure: 1 article (Vallejo-Rosero Et Al., 2021)</li> <li>• R&amp;D Cost Influences Military Expenditure: 1 article (Vallejo-Rosero Et Al., 2021)</li> <li>• Manufacturing Value Positively Influences Military Expenditure: 1 article (Saba and Ngepah, 2021)</li> <li>• Oil Prices Positively Influence Military Expenditure: 3 articles (Akpolat and Bakirtas, 2020; Erdoğan et al., 2020; Yalta and Yalta, 2022)</li> <li>• Crude Oil Export Positively Influences Military Expenditure: 1 article (Akpolat and Bakirtas, 2020)</li> <li>• Trade positively influence Military Expenditure: 1 article (Bove and Nisticò, 2014)</li> </ul>	<p><b>THE IMPACT OF MILITARY EXPENDITURE (ME) ON GDP AND GDP GROWTH</b></p> <ul style="list-style-type: none"> <li>• Military Expenditure Positively Influences GDP: 1 article (Yildirim and Öcal, 2016)</li> <li>• Military Expenditure Positively Influences GDP Growth Rate: 8 articles (Aye et al., 2014; Ferraz, 2022; Lin and Wang, 2019; Pacific et al., 2017; Saba and Ngepah, 2019a, 2019b; Zhong et al., 2017)</li> <li>• Military Expenditure Negatively Influences GDP Growth: 3 articles (Dunne and Smith, 2020; Saba and Ngepah, 2019a, 2019b)</li> </ul> <p><b>THE INFLUENCE OF ME ON SPECIFIC INDICES:</b></p> <ul style="list-style-type: none"> <li>• Military Expenditure Has A Positive Influence On The Income Inequality Index: 3 articles (Elveren and Taşlıran, 2021; Graham and Mueller, 2019; Wolde-Rufael, 2016)</li> <li>• Military Expenditure Positively Influences The Human Development Index And Global Peace Index: 1 article (Vallejo-Rosero Et Al., 2021)</li> <li>• Military Expenditure Negatively Impacted Industrialization And Globalization Indices: 3 articles (Saba and Ngepah, 2021, 2020; Sarwar and Idrees, 2022)</li> <li>• Military Expenditure Positively Influences The Security Index: 1 article (Saba and Ngepah, 2021)</li> </ul>

Table 5. Article Analysis (continue)

Country	Findings (Military Expenditure As Dependent Variable)	Findings (Military Expenditure As Independent Variable)
AFRICAN COUNTRIES 8 Articles: (Ali and Abdellatif, 2015; Aye et al., 2014; Erdoğan et al., 2020; Pacific et al., 2017; Saba and Ngepah, 2021, 2020, 2019a, 2019b; Sarwar and Idrees, 2022a, 2022b)	<b>COUNTRIES SPECIFIC FEATURES FACTORS</b> <ul style="list-style-type: none"> <li>• Arm Imports Positively Influence Military Expenditure: 1 Article (Pamp and Thurner, 2017)</li> <li>• Arm Imports Positively Influence Military Expenditure: 2 Articles (Pamp Et Al., 2018; Pamp &amp; Thurner, 2017)</li> <li>• Recent War And Civil War Influence Military Expenditure: 5 Articles (Armey and McNab, 2019; Bove and Nisticò, 2014; Kauder and Potrafke, 2016; Skogstad, 2016; Yesilyurt and Elhorst, 2017)</li> <li>• Military Regimes Positively Influence Military Expenditure: 2 Articles (Bove and Brauner, 2016; Yesilyurt and Elhorst, 2017)</li> <li>• Democracy Positively Influences Military Expenditure: 1 Article (Bove and Brauner, 2016)</li> <li>• Democracy Index Negatively Influences Military Expenditure: 1 Article (Pamp and Thurner, 2017; Solarin, 2018)</li> <li>• Socio and economics pressure: 1 article (Bove and Nisticò, 2014)</li> </ul>	<b>THE EFFECT OF MILITARY EXPENDITURE ON PROFIT AND INVESTMENT</b> <ul style="list-style-type: none"> <li>• In Developed Countries, Military Expenditure Boosts Countries' Profit Rate: 1 article (Elveren and Taşlrn, 2021)</li> <li>• Military Expenditure Negatively Influences The Private Investment Ratio: 1 article (Hou and Chen, 2014)</li> <li>• Military Expenditure Positively Influences The Growth Investment Ratio: 1 article (Dunne and Smith, 2020)</li> </ul>
BRICS COUNTRIES 2 Articles: (Wang and Su, 2021; Zhong et al., 2017)		
OECD COUNTRIES 4 Articles: (Dunne and Smith, 2020; Graham and Mueller, 2019; Hou, 2018; Hou and Chen, 2014)		
GCG & OPEC COUNTRIES 3 Articles: (Akpolat and Bakirtas, 2020; Ali and Abdellatif, 2015; Erdoğan et al., 2020)		
	<b>SECURITY AND EXTERNAL FACTORS</b> <ul style="list-style-type: none"> <li>• Neighbor Military Expenditure Has A Positive Influence On Military Expenditure: 5 articles (Christie, 2019; Hou and Chi, 2022; Skogstad, 2016; Yalta and Yalta, 2022; Yesilyurt and Elhorst, 2017)</li> <li>• Neighbor Military Expenditure Has A Negative Influence On Military Expenditure: 1 article (Kuokštytė et al., 2021)</li> <li>• US ME Positively Influences Military Expenditure: 2 articles (Christie, 2019; Hou, 2018)</li> <li>• Potential Military Threat Influences Military Expenditure: 4 articles (Christie, 2019; Josselin and Malizard, 2022; Kuokštytė et al., 2021; Neubauer and Odehnal, 2018)</li> <li>• International War Index Positively Influences Military Expenditure: 1 article (Yesilyurt and Elhorst, 2017)</li> </ul>	<b>THE INFLUENCE OF MILITARY EXPENDITURE ON EXPORTS AND DEBT:</b> <ul style="list-style-type: none"> <li>• Military Expenditure Positively Influences Crude Oil Export: 1 article (Akpolat and Bakirtas, 2020)</li> <li>• In Some Countries, Military Expenditure Positively Influences The Number Of External Debts: 1 article (Azam and Feng, 2017)</li> </ul>
	<b>POPULATION AND DEMOGRAPHIC FACTORS</b> <ul style="list-style-type: none"> <li>• Population Size Has Positively Impacted Military Expenditure: 3 articles (Pamp and Thurner, 2017; Skogstad, 2016; Yesilyurt and Elhorst, 2017)</li> <li>• Population Size Has A Negative Impact On Military Expenditure: 5 articles (George et al., 2019; Hou, 2018; Josselin and Malizard, 2022; Solarin, 2018; Yalta and Tüzün, 2021)</li> </ul>	<b>THE IMPACT OF MILITARY EXPENDITURE ON REGIONAL INDICATORS</b> In Specific Regional Economic Groups, Military Expenditure Positively Impacts Industrialization: 1 article (Saba and Ngepah, 2020)



Table 5. Article Analysis (continue)

Country	Findings (Military Expenditure As Dependent Variable)	Findings (Military Expenditure As Independent Variable)
	<p>POLITICS AND INSTITUTIONAL FACTORS</p> <ul style="list-style-type: none"> <li>• Corruption Index Negatively Influences Military Expenditure: 2 articles (Arif Et Al., 2019; Do, 2021)</li> <li>• The State Fragility Index Negatively Influences Military Expenditure: 1 article (Saba and Ngepah, 2019a)</li> <li>• The Dependency Ratio Has A Negative Impact On Military Expenditure: 1 article (Solarin, 2018)</li> <li>• The Institutional Quality Index Negatively Impacts Military Expenditure: 1 article (Solarin, 2018)</li> <li>• The Civil Liberty Index Positively Influences Military Expenditure: 1 article (Skogstad, 2016)</li> </ul>	

This section aims to discuss the main findings in order to answer RQ3 and RQ4. It is divided into two subsections for clarity.

**What does the literature reveal about military expenditure across different nations?**

The literature on military expenditure across various countries is vast and provides comprehensive insights into the multifaceted factors influencing defense spending. Pamp & Thurner (2017), Solarin (2018), and Vallejo-Rosero et al. (2021) suggest a positive relationship between GDP growth and defense expenditure on a global scale. In contrast, Do (2021) observes a negative association between these variables. This difference highlights the complex nature of economic factors in shaping military budgets. Furthermore, the strategic importance of resource-rich nations in global geopolitics is reflected in the positive association between natural resource rents and military expenditure, as posited by Do (2021).

The dynamics of international relations and regional interactions significantly shape defense budgets. Proximity to neighbors with elevated military expenditures can lead to higher defense spending, as suggested by studies from Christie (2019), Skogstad (2016), and Yesilyurt & Elhorst (2017). Furthermore, the occurrence of recent wars or civil unrest in a region can spur an uptick in military budgets (Armey & McNab, 2019; Skogstad, 2016).

Political regime types also influence defense spending. Military regimes and autocracies are associated with higher defense expenditure (Bove & Brauner, 2016; Yesilyurt & Elhorst, 2017). On the other hand, democratic nations might exhibit reduced military spending due to factors such as the democratic peace theory, corroborated by findings from Pamp & Thurner (2017) and Solarin (2018). Institutional quality emerges as a determinant, with Solarin (2018) suggesting a negative relationship between institutional quality and military spending. Likewise, Arif et al. (2019) and Do (2021) point towards the negative influence of corruption levels on military budgets. Population dynamics also bear significance. While some research, such as Pamp & Thurner (2017) and Skogstad (2016), indicates a positive relationship between population size and defense expenditure, others like Solarin (2018) find the opposite.

Delving into regional perspectives, European defense expenditures, as explored by Christie (2019), Sauer (2015), and Yesilyurt & Elhorst (2017), are influenced by population size and military cooperation. In NATO countries, the works of Kauder & Potrafke (2016) and Odehnl et al. (2021) highlight the impact of neighboring countries' military expenditure, domestic political dynamics, and recent war histories. Meanwhile, Asian and Asia-Pacific nations, as studied by George et al. (2019), D. Hou (2018), N. Hou & Chi (2022), and others, reveal influences from previous-year military spending, national income levels, and U.S. military expenditures.

## What are the theories used to explain military expenditures?

In addressing our systematic literature review's fourth research question, the articles under consideration manifested a rich tapestry of theoretical perspectives. Several articles anchored their discussions within a singular theoretical framework, while others wove together multiple theories to craft an encompassing narrative. Central to these discussions was the "Realist Theory," suggesting that states maneuver predominantly driven by their inherent national interests in a world marked by an absence of overarching authority (Yildirim & Öcal, 2016). This theoretical strand was often harmonized with the "Neoclassical Theory", which underscores the potency of market dynamics, particularly pertinent when delving into the intricacies of defense resource distribution (N. Hou & Chi, 2022; Saba & Ngepah, 2019a, 2021; Solarin, 2018).

Another foundational theory frequently encountered was the "International Relations Theory." Envisioned through works like those of Yesilyurt & Elhorst (2017), this theory elucidates the intricate dance of national interactions and how defense strategies are both sculpted by and sculpt global relations. Turning to the economic lens, the articles frequently alluded to theories like the "Doctrine of Balanced Growth", "Leibenstein's Theory of Critical Minimum Effort", and "Rosenstein-Rodan's Theory of The Big Push" (Saba & Ngepah, 2020). Collectively, these theories shine a light on the economic underpinnings of defense expenditure, tracing from initial investments, the interrelationship with macroeconomic growth, to its encompassing role in the larger economic mosaic. As the discourse veered towards alliance dynamics, the "Economic Theory of Alliances" and "The Theory of Alliances" came to the fore, shedding light on the confluence of economic and military stratagems that shape alliance formations (Kauder & Potrafke, 2016; Yalta & Tüzün, 2021).

However, the landscape was not without its challenges. Some articles exhibited a degree of ambiguity regarding their core theoretical allegiance. Such instances underscore a promising avenue for future scholarship – to delve more profoundly into theories like the "Realist Theory" or the "Neoclassical Model", potentially unearthing fresh insights and pioneering theoretical trajectories in defense expenditure studies.

## Managerial Implications

This research emphasizes the need for adaptive budgetary strategies that align with economic capabilities and security priorities. Policymakers are encouraged to adopt multi-theoretical frameworks to address the complex interplay of economic and political factors in defense budgeting, ensuring both strategic preparedness and fiscal responsibility.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

In the systematic exploration of literature related to military expenditure, this study has elucidated various intricate dynamics shaping defense budgets globally. Central to these discussions is the influence of Gross Domestic Product (GDP) and its growth trajectory on military spending. However, the landscape is nuanced; alongside economic considerations, geopolitical nuances, regional interdependencies, and international political dynamics emerge as pivotal determinants.

Theoretical engagement in these scholarly pursuits is evident. A preponderance of studies utilizes established paradigms such as the "Realist Theory" and "Neoclassical Theory". Notably, while many studies anchor their investigations within a singular theoretical paradigm, there exists a substantial subset that amalgamates multiple theoretical constructs, underscoring the multifarious nature of defense expenditure scholarship. The salience of "International Relations Theory" underpins the intricate nexus between defense paradigms and global diplomatic dynamics, while economic theories elucidate the symbiotic relationships between defense fiscal outlays and macroeconomic indices.

The geographical focus within the literature adds significant depth to the discussion. Highlighting the Asia Pacific region underscores its critical role in defense spending, driven by its geopolitical tensions and economic influence. Similarly, studies on Europe and NATO members emphasize the impact of alliances, collective defense agreements, and shared strategic priorities on military budgeting in these. Regional insights from various research such form (Odehnal et al. 2021; Vallejo-Rosero et al. 2021; Zhong et al. 2017) illustrate how localized factors shape global defense expenditure trends.

In our systematic literature review (SLR), we have embarked on a comprehensive exploration of the multifaceted landscape of military expenditure across the globe. The findings aim to bridge gaps between theoretical constructs and practical applications, providing actionable insights for policymakers in both developed and developing nations. Future research could target underrepresented regions, such as Africa and South America, to provide a more holistic perspective on global defense expenditure dynamics. There exists an academic opportunity for future research to delve profoundly into individual theories, potentially offering groundbreaking vantage points in defense economics.

### Recommendations

To bridge existing knowledge gaps and enhance the scope of future research, several recommendations are proposed. First, expanding the use of literature sources beyond Scopus-indexed journals to include other reputable databases is essential for achieving a more comprehensive and inclusive analysis. Adopting interdisciplinary approaches, which integrate perspectives from sociology, environmental studies, and technological innovation, will further enrich the understanding of defense spending determinants. Additionally, greater attention must be given to regional and cultural factors, as these elements critically influence defense budgeting priorities. Empirical research that validates theoretical frameworks using real-world data is also highly encouraged, ensuring practical applicability and policy relevance. Employing dynamic methodologies, such as combining qualitative interviews with quantitative econometric models, can provide deeper insights into the drivers of military expenditures. Lastly, policymakers should emphasize transparency and accountability in defense budgeting, striking a balance between economic growth objectives and national security imperatives. These steps are crucial for aligning defense expenditures with broader socioeconomic goals and fostering effective policy-making.

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