Hacettepe University Graduate School of Social Sciences

Department of Economics

MEASURING THE ECONOMIC SECURITY: COMPARISON OF SELECTED STATES AND BLOCKS

Görkem DURAK

Ph.D. Dissertation

Ankara, 2024

MEASURING THE ECONOMIC SECURITY: COMPARISON OF SELECTED STATES AND BLOCKS

Görkem DURAK

Hacettepe University Graduate School of Social Sciences
Department of Economics
Economics Ph.D. Program (English)

Ph.D. Dissertation

Ankara, 2024

ACCEPTANCE AND APPROVAL

The jury finds that Görkem Durak has on the date of 28.05.2024 successfully passed the defense examination and approves his Ph.D. thesis titled “Measuring the Economic Security: Comparison of Selected States and Blocks”.

Prof. Dr. Ozan ERUYGUR (Jury President)

Prof. Dr. Özgür TEOMAN (Main Adviser)

Prof. Dr. Burak TANGÖR

Dr., Associate Professor Ali Murat BERKER

Dr., Associate Professor Cemil VARLIK

I agree that the signatures above belong to the faculty members listed.

Prof.Dr. Uğur ÖMÜRGÖNÜLŞEN

Graduate School Director

YAYIMLAMA VE FİKRİ MÜLKİYET HAKLARI BEYANI

Enstitü tarafından onaylanan lisansüstü tezimin/raporumun tamamını veya herhangi bir kısmını, basılı (kağıt) ve elektronik formatta arşivleme ve aşağıda verilen koşullarla kullanıma açma iznini Hacettepe Üniversitesine verdiğimi bildiririm. Bu izinle Üniversiteye verilen kullanım hakları dışındaki tüm fikri mülkiyet haklarım bende kalacak, tezimin tamamının ya da bir bölümünün gelecekteki çalışmalarda (makale, kitap, lisans ve patent vb.) kullanım hakları bana ait olacaktır.

Tezin kendi orijinal çalışmam olduğunu, başkalarının haklarını ihlal etmediğimi ve tezimin tek yetkili sahibi olduğumu beyan ve taahhüt ederim. Tezimde yer alan telif hakkı bulunan ve sahiplerinden yazılı izin alınarak kullanılması zorunlu metinlerin yazılı izin alınarak kullandığımı ve istenildiğinde suretlerini Üniversiteye teslim etmeyi taahhüt ederim.

Yükseköğretim Kurulu tarafından yayınlanan ***"Lisansüstü Tezlerin Elektronik Ortamda Toplanması, Düzenlenmesi ve Erişime Açılmasına İlişkin Yönerge"*** kapsamında tezim aşağıda belirtilen koşullar haricince YÖK Ulusal Tez Merkezi / H.Ü. Kütüphaneleri Açık Erişim Sisteminde erişime açılır.

- Enstitü / Fakülte yönetim kurulu kararı ile tezimin erişime açılması mezuniyet tarihimden itibaren 2 yıl ertelenmiştir. (1)
- Enstitü / Fakülte yönetim kurulunun gerekçeli kararı ile tezimin erişime açılması mezuniyet tarihimden itibaren 6 ay ertelenmiştir. (2)
- Tezimle ilgili gizlilik kararı verilmiştir. (3)

28/05/2024

Görkem DURAK

[1] *"Lisansüstü Tezlerin Elektronik Ortamda Toplanması, Düzenlenmesi ve Erişime Açılmasına İlişkin Yönerge"*

(1) Madde 6. 1. Lisansüstü tezle ilgili patent başvurusu yapılması veya patent alma sürecinin devam etmesi durumunda, tez ***danışmanının*** *önerisi ve* ***enstitü anabilim dalının*** *uygun görüşü üzerine* ***enstitü*** *veya* ***fakülte yönetim kurulu*** *iki yıl süre ile tezin erişime açılmasının ertelenmesine karar verebilir.*

(2) Madde 6. 2. Yeni teknik, materyal ve metotların kullanıldığı, henüz makaleye dönüşmemiş veya patent gibi yöntemlerle korunmamış ve internetten paylaşılması durumunda 3. şahıslara veya kurumlara haksız kazanç imkanı oluşturabilecek bilgi ve bulguları içeren tezler hakkında tez ***danışmanının*** *önerisi ve* ***enstitü anabilim dalının*** *uygun görüşü üzerine* ***enstitü*** *veya* ***fakülte yönetim kurulunun*** *gerekçeli kararı ile altı ayı aşmamak üzere tezin erişime açılması engellenebilir.*

(3) Madde 7. 1. Ulusal çıkarları veya güvenliği ilgilendiren, emniyet, istihbarat, savunma ve güvenlik, sağlık vb. konulara ilişkin lisansüstü tezlerle ilgili gizlilik kararı, ***tezin yapıldığı kurum*** *tarafından verilir *. Kurum ve kuruluşlarla yapılan işbirliği protokolü çerçevesinde hazırlanan lisansüstü tezlere ilişkin gizlilik kararı ise,* ***ilgili kurum ve kuruluşun önerisi*** *ile* ***enstitü*** *veya* ***fakültenin*** *uygun görüşü üzerine* ***üniversite yönetim kurulu*** *tarafından verilir. Gizlilik kararı verilen tezler Yükseköğretim Kuruluna bildirilir.*
Madde 7.2. Gizlilik kararı verilen tezler gizlilik süresince enstitü veya fakülte tarafından gizlilik kuralları çerçevesinde muhafaza edilir, gizlilik kararının kaldırılması halinde Tez Otomasyon Sistemine yüklenir

****** *Tez* ***danışmanının*** *önerisi ve* ***enstitü anabilim dalının*** *uygun görüşü üzerine* ***enstitü*** *veya* ***fakülte yönetim kurulu tarafından karar verilir.***

ETİK BEYAN

Bu çalışmadaki bütün bilgi ve belgeleri akademik kurallar çerçevesinde elde ettiğimi, görsel, işitsel ve yazılı tüm bilgi ve sonuçları bilimsel ahlak kurallarına uygun olarak sunduğumu, kullandığım verilerde herhangi bir tahrifat yapmadığımı, yararlandığım kaynaklara bilimsel normlara uygun olarak atıfta bulunduğumu, tezimin kaynak gösterilen durumlar dışında özgün olduğunu, **Prof. Dr. Özgür TEOMAN** danışmanlığında tarafımdan üretildiğini ve Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü Tez Yazım Yönergesine göre yazıldığını beyan ederim.

Görkem DURAK

ACKNOWLEDGEMENTS

I wish to convey my utmost appreciation to my academic advisor, Prof. Dr. Özgür Teoman, for his invaluable guidance, encouragement, and insightful discussions throughout my research.

I am also profoundly grateful to the esteemed members of my thesis jury: Prof. Dr. Ozan Eruygur, Prof. Dr. Burak Tangör, Asst. Prof. Dr. Ali Murat Berker, and Asst. Prof. Dr. Cemil Varlık, for their advice and significant contributions to my thesis.

My heartfelt thanks go to my friends Aytaç Kepir, Arda Altıner, and Murat Cin for their support and for keeping my spirits high during challenging times.

I sincerely thank my family for their support in every aspect of my life. Despite the physical distance, their presence and love have always been deeply felt.

Finally, I would like to express my deepest gratitude to my beloved wife, Henrike Sophie Mohr, for her unwavering understanding, support, and belief in me during this challenging period. Her encouragement has been invaluable, especially during the most difficult times.

ABSTRACT

DURAK, Görkem. *Measuring the Economic Security: Comparison of Selected States and Blocks*, Ph.D. Dissertation, Ankara, 2024.

Security Studies cover the security of referent units or organizations such as individuals or states. Since the Second World War, the scope and importance of Security Studies have increased. In the post-Cold War period, it was adopted as a purely military field and was handled within the scope of the power policies of the states. The Copenhagen School's contribution to international relations widened the scope of international security. The security concepts for different fields, such as economics, policy, environment, society, and military, have started to be used in the international security literature. Among them, economic security consists of tangible and intangible factors. Its tangible dimension includes the need to produce sufficient resources for the production of primary goods, such as raw materials and foodstuffs which feed the population. The intangible dimension of economic security concerns effectively adopting cutting-edge and successful strategies and practices. This study uses panel data estimation models to answer how governance affects a country's GDP within three Regional Security Complexes (RSC) encompassing 51 countries using the statistical data from 2006 to 2019. The study reveals a robust relationship between higher-quality institutions and economic growth, highlighting the pivotal role of institutions in fostering economic security. Furthermore, the study underscores the need to acknowledge regional disparities in crafting tailored policy interventions to promote sustainable economic development, thereby enhancing economic security for different regions.

Keywords

Copenhagen School, Economic Security, Securitisation, Regional Security Complexes, Security Sectors, Driscoll and Kraay Standard Errors

ÖZET

DURAK, Görkem. *Ekonomik Güvenliğin Ölçülmesi: Seçilmiş Devletlerin ve Blokların Karşılaştırılması*, Doktora Tezi, Ankara, 2024.

Güvenlik Çalışmaları, bireyler veya devletler gibi referans birim ya da organizasyonların durumlarını kapsar. İkinci Dünya Savaşı'ndan bu yana Güvenlik Çalışmalarının kapsamı ve önemi artmıştır. Güvenlik çalışmaları Soğuk Savaş sonrası dönemde tamamen askeri bir alan olarak görülmüş ve devletlerin güç politikaları kapsamında ele alınmıştır. Kopenhag Okulu'nun uluslararası ilişkiler yazınına katkısı, uluslararası güvenlik temasının kapsamını genişletmek olmuştur. Nitekim güvenlik kavramı giderek genişleyerek ekonomik, siyasi, çevresel, toplumsal ve askeri alanlarda uluslararası güvenlik yazınına girmiştir. Bunlar arasında ekonomik güvenlik kavramı somut ve soyut unsurlardan oluşmaktadır. Ekonomik güvenliğin somut boyutu, nüfusunu besleyebilecek düzeyde gıda malları üretimini ve sanayilere ihtiyacı olan tarımsal hammaddelerin temin edilmesi gereğini içermektedir. Ekonomik güvenlik gereksinimlerinin soyut boyutu, en yeni ve başarılı strateji ve uygulamaların etkin bir şekilde benimsenmesiyle ilgilidir. Bu çalışma, 2006-2019 yılları arasında 51 ülkeyi kapsayan üç Bölgesel Güvenlik Kompleksi (BGK) içerisinde yönetişimin bir ülkenin GSYH'sini nasıl etkilediğini cevaplamak için panel veri tahmin modellerini kullanmaktadır. Çalışma, yüksek kaliteli kurumlar ile ekonomik büyüme arasında güçlü bir ilişki olduğunu ortaya koymakta ve kurumların ekonomik güvenliği desteklemedeki önemli rolünü vurgulamaktadır. Çalışma ayrıca, sürdürülebilir ekonomik kalkınmayı teşvik etmeyi amaçlayan özel politika müdahalelerinin hazırlanmasında bölgesel farklılıkların dikkate alınmasının gerekliliğinin altını çizmekte ve bölgeler için ekonomik güvenliğin artan önemine vurgu yapmaktadır.

Anahtar Sözcükler

Kopenhag Okulu, Ekonomik Güvenlik, Güvenlikleştirme, Bölgesel Güvenlik Kompleksleri, Güvenlik Sektörleri, Driscoll ve Kraay Standart Hataları

TABLE OF CONTENTS

ABBREVIATIONS

CC	Control of Corruption
CDC	The United States Centers for Disease Control and Prevention
COPRI	Copenhagen Institute for Conflict and Peace Studies
CPREA	The Canadian Peace Research and Education Association
DTI	UK Department of Trade and Industry
EAPI	Energy Architecture Performance Index
EIU	The Economist Intelligence Unit
FAO	The Food and Agriculture Organization
FDI	Foreign Direct İnvestment
FEWS NET	The Famine Early Warning Systems Network
FIES	The Food Insecurity Experience Scale
GBD	The Global Burden of Disease Index
GDP	Gross Domestic Product
GE	Government Effectiveness
GFSI	The Global Food Security Index
GHI	The Global Hunger Index
GHO	The Global Health Observatory
GHSI	The Global Health Security Index
HAQ	The Healthcare Quality and Access Index
IHME	Health Metrics and Evaluation
IHR	International Health Regulations
IPC	The Integrated Food Security Phase Classification
IPRA	The International Peace Research Association
JEE	Joint External Evaluation
MDER	Minimum Dietary Energy Requirements
MOSES	Model of Short-Term Energy Security
NGOs	Non-Governmental Organisations
OECD	The Organisation for Economic Co-operation and Development
OLS	Ordinary Least Squares
PCA	Principal Component Analysis
PRIO	Peace Research Institute of Oslo

PSAJ	Peace Studies Association of Japan
PV	Political Stability and Absence of Violence/Terrorism
PWT	Penn World Table
RCG	Residency and Citizenship Group
RL	Rule of Law
RQ	Regulatory Quality
RSC	Regional Security Complex
SDG	Sustainable Development Goal
SIPRI	The Stockholm International Peace Institute
TAPRI	The Tampere Peace Research Institute
UNDP	United Nations Development Programme
USAID	US Agency for International Development
VA	Voice and Accountability
WEC	The World Energy Council
WGI	Worldwide Governance Indicators
WHO	World Health Organization

TABLES

FIGURES

INTRODUCTION

Security refers to the preservation of values that we hold. At the individual level, security can be seen as being safe against threats that may occur while living fearlessly in the current conditions. Within this context, it can be accepted that the basic dynamic of security is survival against threats and danger. This can be applied to states and societies in a broader sense. Nevertheless, the basic notion of security, the safety or protection of values, remains.

According to Barry Buzan, *security* is defined as the ability of states and societies to preserve their identity and functional integrity independently (Buzan, 1991, p. 432). In addition, David Baldwin questioned the diversification of the security concept and emphasised that it needed to explain the discussion sufficiently. McSweeney explained that the concept of security is inherently difficult to define due to its complex and multifaceted nature. (Baysal & Lüleci, 2015).

The history of Security Studies goes back to the beginning of the 20th century. In order to avoid the destructive and adverse effects of the First World War, a new era entered international relations. Initially, security was studied within the scope of international relations and foreign policy frameworks. Security studies as a subject of professional academic research is a relatively new subject and was shaped mainly by the Anglo-American mindset after the Second World War.

According to some researchers, the golden age of Security Studies is between 1950 and 1960 (Baldwin, 199, p. 119). The main reason for the golden age was the introduction of new military subjects such as nuclear weapons and arms control. The most obvious question of this age was about using weapons of mass destruction as an instrument of power in politics. In contrast, earlier research revolved around the definition of security (Baldwin, 1996, p. 120).

Moreover, the researches of the Golden Age needed more empirical studies to support their findings. Most of the information was classified and could not be used in the studies. In this age, the rational actor was at the heart of the deterrence theory. Unfortunately, this approach ignored other factors, such as diplomatic, informational, and economic, which could contribute to shaping the

state behaviour. The Golden Age of Security Studies concluded with several challenges, including research stagnation, a shortage of emerging generations of scholars, and the waning significance of the Vietnam War. Moreover, the era of détente between the United States and the Soviet Union contributed to the diminished importance of Security Studies. (Walt, 1991, p. 216).

During the Cold War period, the concept of realism was mainly accepted. Afterwards, Peace Studies evolved to criticise Strategy Studies. From the Second World War to the 1980s, National Security Studies and Strategy Studies controlled security considerations. As a result, security was handled at a much more limited level and concentrated on the military aspect.

The modern global landscape is characterised by deep interdependencies, geopolitical upheavals, and economic complications, making global economic security critical for governments. A significant problem emerges in this process: examining and improving economic security through a multifaceted lens. With its emphasis on non-traditional security elements, Barry Buzan's security sector approach provides a viable framework for examining economic security. However, the empirical application of this method has largely gone unexplored, leaving a substantial gap in our understanding of the complex processes at the confluence of economics and security. This research aims to close this gap by using Buzan's paradigm for an empirical assessment of economic security, revealing light on the complex challenges and opportunities that states confront in protecting their economic interests in a developing global system. This research is expected to give valuable insights into policy formation and strategic decision-making in the quest for solid economic security frameworks.

This thesis, which adopts Barry Buzan's security sector approach, fills a significant gap in the economic security literature. While economic security is considered necessary, the current knowledge base is theoretical. This thesis aims to fill this gap in the literature by providing a solid empirical analysis based on Buzan's approach. The research goes beyond refining theoretical techniques to deliver tangible, evidence-based insights into economic security from a regional perspective. The practical implications are significant, providing

policymakers, scholars, and practitioners with tools to develop measures to protect a country's economic interests. This thesis is also a significant step forward in the knowledge of economic security, establishing the framework for robust and actionable security policy.

The study begins with a theoretical foundation, emphasising the relevance and applicability of Buzan's method to understanding economic security dynamics. The background of security studies and diverse approaches to security are reviewed, providing a setting that illustrates the complicated interplay of theoretical viewpoints over time.

Furthermore, the thesis seeks to clarify the concept of economic security and its fundamental relationship with national power. This investigation goes into both tangible and intangible components, addressing the necessity of ensuring the production of critical goods and implementing successful ways to protect a nation's economic interests. In doing so, the study aims to contribute to the theoretical refinement and better understand the practical complexities of ensuring a country's economic well-being.

The thesis includes three chapters. The first chapter describes the background of security studies, approaches to security, factors affecting economic security and levels of economic security, depending on the most recent essential theories of Realism, Liberalism, Peace, and Critical Security Studies. The study underlines the three pillars of The Copenhagen School, which has contributed to the academic literature on securitisation/de-securitisation theory, RSC theory, and sectoral security approach in international security studies.

The first chapter also delves into the elements of national power that significantly impact economic security. These elements are crucial factors that shape a nation's ability to safeguard its economic interests.

The first chapter also presents a comprehensive review of existing literature on economic security. It highlights that economic security is a complex and multi-dimensional concept encompassing various levels of analysis. The literature identifies three primary dimensions of economic security: individual economic

security, national economic security, and international economic security. These dimensions serve as a framework for understanding different aspects of economic security.

The literature on security is examined in the second chapter, and several calculating methods are discussed. The empirical literature on security formulas covers food, energy, health, industrial security and similar studies on governance. The third chapter covers the research design and empirical results. In conclusion, based on these results, the study interprets its research findings and provides actionable political advice to policymakers.

CHAPTER 1:
ECONOMIC SECURITY

At the core of the security concept, security involves preserving values, ensuring safety against threats, and maintaining functional integrity. Despite the challenge of defining security, security studies emerged in the 20th century, influenced by the Anglo-American mind-set post-World War II.

The Golden Age of security studies (1950-1960) introduced topics like nuclear weapons, but empirical limitations hindered progress. This era faced challenges like stagnant research, a lack of scholars, and the diminishing relevance of the Vietnam War. The détente period between the US and the Soviet Union has diminished the significance of security studies.

During the Cold War, realism dominated, concentrating on military aspects in national security and strategy studies. In the late-1970s, security studies revived with the collapse of détente. Critical issues increased its importance, and improved data availability enhanced the quality and quantity of studies.

Barry Buzan's 1983 study recognised non-military subjects, prompting Security Studies to broaden its content with novel approaches. The debate between traditionalists and novel approaches persisted until the end of the Cold War, with constructivism gaining ground post-Cold War. Security studies expanded its context to include identity, health, economy, environment, and humanity (Buzan & Hansen, 2009, p. 203).

During the 1990s and 2000s, a notable shift occurred in security, with national governments and international organisations adapting their official perspectives to align with a more comprehensive understanding of security. This evolution led to the inclusion of diverse challenges within the ambit of security agendas. Consequently, migration, terrorism, disarmament, transnational crime, and the intricacies of conflict prevention and crisis management emerged as integral components of the post-Cold War security landscape (Tangör, 2004, p. 255).

1.1. APPROACHES TO SECURITY AND COPENHAGEN SCHOOL

Security studies were defined entirely within the strategic studies' framework from the Second World War to the 1980s. In other words, until the post-Cold War period, it was seen as a purely military field and was handled within the scope of the power policies of the states. In the post-Cold War period, security studies gained a multidimensional form. Notably, as an individual-group-state on the vertical axis and political-economic-social-environmental-humanitarian on the horizontal axis; security studies have expanded to the nation-state and regional-local governments, international organisations, non-governmental organisations, public opinion, press, market, and forces of nature.

Realism theory emphasises state security and goals, facing criticism but acknowledged for rational explanations of war and conflict. Regarded as a dominant paradigm in security studies, realism defines security narrowly, with the state as the sole focus and threats described in terms of military power (Hough et al., 2015, p. 14).

Fundamental realist tenets include international anarchy, with no higher authority above states, and the perception of power as a resource for building military force. Realism sees the state as a homogeneous unit, acting strategically as a rational actor in the international environment.

Waltz's (1988) structural realism prioritises state survival, supporting the idea that international order creates a competitive environment. Offensive realism, associated with Mearsheimer (2001), emphasises states' pursuit of power to consolidate integrity against future threats. Defensive realism, in contrast, values cooperation and sees international orders as less competitive under certain conditions, promoting arms control and unilateral restraints.

Motivational realism, unlike other realist approaches, emphasizes the internal conditions of a state. It argues that state greed, rather than the structure of the international system, is the primary driver of conflict. Realists universally view the increase in one state's power as a security concern, leading to measures to

prevent aggression. Balancing power is crucial to prevent constant attacks in the anarchic international system.

Liberalist thought, attributed to John Locke and Immanuel Kant, peaked after World War I under US President Wilson's leadership (Collins, 2013). During the Cold War, liberalism played a crucial role in Western international relations, emphasising positive development, cooperation, security, and peace. Liberals acknowledge various actors beyond the state, such as international organisations, NGOs (Non-Governmental Organizations), regulations, and private initiatives, asserting that actors' choices shape the structure of international politics.

Friedrich August von Hayek, a key figure in classical liberalism, advocates using market forces to coordinate human activities, highlighting liberalism's effectiveness without coercive intervention (Hayek, 1945, p. 45). Common tenets of liberalism include the belief that free trade, democracy, and international organisations can achieve security and peace (Walker & Rousseau, 2016, p. 22).

Liberalism posits that free trade decreases conflict, democracies avoid conflict with each other (inter-democratic peace), and international organisations provide platforms to avoid conflicts. Neoliberal institutionalism, a trivet of liberalism, focuses on the economic dimensions of cooperation, challenging traditionalist approaches (Hough et al., 2015, p. 21).

Neoliberals who are followers of liberal views, such as Robert Keohane and Joseph Nye, argue that states, in addition to military power, prioritise creating international economic bonds to reduce conflict (Keohane & Nye, 2001). Despite empirical examples supporting liberal thought, it faces criticism for perceived thinness and being outdated (Collins, 2013, p. 40). The future role of liberalism in security studies remains uncertain due to the field's recent expansion and broadening.

Peace studies originated in the post-Second World War era, initially focusing on nuclear arms and the aftermath of war. The Korean War and colonial violence led to a pessimistic perspective, prompting the establishment of Theodore Lenz's

Peace Research Laboratory in 1945, the oldest operating peace research centre. The Pugwash Movement[1] and the Bulletin of the Atomic Scientists also contributed to the development of the field, leading to several research institutes.

Initially focused on global solutions beyond the state, peace studies expanded its scope to include issues like the north-south welfare/poverty problem and environmental concerns. In the 1970s, socio-economic and ecological aspects were incorporated, with recent years witnessing the inclusion of conflict prevention, resolution, and peacekeeping.

Positive peace, a concept in security and peace studies, transcends the absence of violent conflict, aiming for lasting well-being in society. It emphasises building a harmonious and prosperous society beyond merely avoiding hostilities. Peace studies are crucial in Europe and the US despite covering fewer areas than strategic studies.

The first characteristic of peace studies is identifying the underlying cause of violence, necessitating an interdisciplinary approach. Research draws from various fields, such as political science, economics, anthropology, and psychology. Another characteristic involves seeking mitigation measures after violent situations, including humanitarian intervention. Peace studies analyse individual, group, state, and international conflicts, considering trans-state conflicts (Rogers & Ramsbotham, 1999, p. 750).

Critical security studies faced neglect during the Cold War but gained traction by the post-Cold War. This multidimensional paradigm explores political, social, philosophical, and scientific aspects, focusing on property ownership, class conflicts, and the role of economic dynamics in social change.

Emerging in the early 1980s and formalised in 1994, critical security studies originated from citizens, intellectuals, and activists seeking new security perspectives (Avant et al., 2008, p. 89). Influential researchers like Ken Booth adopted post-Marxist critical theory, challenging the state-centric approach of

[1] It aims at a world free of nuclear weapons and other types of weapons of mass destruction, https://pugwash.org/

realism. Booth emphasised individuals as the ultimate reference for security, arguing that proper security comes from emancipation, aligning choices with free will (Booth, 1991, p. 319).

Wyn Jones, another supporter of critical studies, questioned realism's state-centric approach and its failure to understand World War I. He challenged the analytical usefulness of realist statism, urging analysts to consider the state's internal politics (Jones, 1999, p. 76).

Ken Booth's Theory of World Security significantly contributes to critical security studies, advocating a shift from conservative security thinking to promoting decent lives for individuals and groups (Booth, 2007, p. 130; Cavelty & Mauer, 2010, p. 50).

Social constructivism, a theory in international relations that emerged in the late 1980s, contends that socially and historically constructed ideas shaping international politics. It challenges rationalist approaches, emphasising collectively held beliefs as factors influencing actors' behaviour and identities (Wendt, 1999, p. 4).

Social Constructivism questions neorealism and neoliberalism, emphasising normative and ideational structures and acknowledging the centrality of actors' activities, interests, and beliefs. Constructivism's ontological tenets include a departure from neorealism and neoliberalism, highlighting the importance of normative and ideational structures. The identity of an actor is crucial, influencing behaviour and goals, and the interaction between actors and their environment occurs mutually.

Contrary to realism, social constructivism rejects the idea of an anarchic structure, stating that an anarchic world results from actors' beliefs. In the 1990s, EU and US constructivism differed on security issues, with European approaches tied to peace research and US constructivism originating from rationalism-relativism. Over time, social constructivism has branched into conventional and critical approaches (Buzan & Hansen, 2009, p. 191).

Positive peace, integrating liberal peace research and post-structuralism, offers a comprehensive framework by recognising both structural and ideational factors, including democratic institutions, international cooperation, power dynamics, and the socially constructed nature of peace.

Human security is contrasted with the traditional and dominating state-centric notion of security in any survey of modern security studies. For proponents of the former view, the referent object of security, or the thing to be secured, is the state embodied in national security. In other words, the state is the main subject in the conventional approaches, while the human is crucial.

Human security, acknowledged in the 1994 United Nations Development Programme (UNDP) Report, represents a shift from traditional security perspectives, focusing on people's daily concerns beyond territorial or state-centric threats (UNDP, 1994, p. 22). Initially used in the UNDP Report 1994, the concept contrasts state security with human development (Gasper, 2014, p. 29), broadening the security debate post-Cold War.

In the early 1990s, the United Nations (UN) introduced the concept of human security. This approach aimed to redirect resources towards development, support individuals affected by severe internal conflicts, and challenge the traditional security agenda (Collins, 2013, p. 105).

The Narrow School focuses on the danger of political violence, emphasising 'freedom from fear.' At the same time, the broad movement asserts that human security involves both 'freedom from fear' and 'freedom from want,' as outlined in the UNDP Report (Collins, 2013, p. 106).

Post-9/11, the connection between gender and security gained attention, especially in conflicts like Iraq, Afghanistan, and Pakistan. Feminist scholars advocate for women's security, addressing various perspectives, from conservative feminists emphasising distinct gender roles to cultural feminists highlighting women as natural peacemakers.

Gender and security analysis, using an empirical low-theory approach, explores topics like sex trafficking, wartime sexual violence, and the impact of UN Security Council Resolution 1325 (Buzan & Hansen, 2009, p. 212).

With the end of the Cold War era, the bipolar world order ended. Expansionary and deepening approaches began gaining traction, and new constructivists contributed to security studies. As the study progressed, more culture, identity, environment, economy, and health issues began to be studied.

The Copenhagen School arose in the 1990s from scholars at the Copenhagen Institute for Conflict and Peace Studies (COPRI) [2]. This approach has significantly expanded security by adding concepts like securitisation-desecuritisation and RSCs to security studies. The Copenhagen School has contributed to the academic literature on securitisation/desecuritisation theory, RSC theory, and sectoral security approach in international security studies[3].

1.1.1. Securitisation: Ole Weaver's conceptualisation of securitisation constitutes a foundational aspect of the Copenhagen School's theoretical framework. This theory has become a focal point in international security analysis, aiming to provide an unconventional perspective while retaining traditional security foundations, such as existential threats and survival, crucial to the security paradigm (Waever, 1995, p. 46). In presenting a novel analytical framework, securitisation introduces theoretical elements aligned with the Copenhagen School, including new security sectors and security reference objects. Departing from conventional approaches that primarily designate states as objects, securitisation broadens the scope to encompass non-state entities such as the environment, individuals, and society in global security discourse.

A central tenet of securitisation theory is its capacity to elevate any subject—be it individuals, groups, or abstract concepts like the environment and the economy—from a non-politicised state to a national security concern. Emphasising the dynamic nature of security concerns, the theory underscores

[2] Barry Buzan, Ole Weaver, Jaap De Wilde, Morten Kelstrup, Pierre Lamartine and Elzbieta Tromer are the leading researchers of the Copenhagen School.
[3] Barry Buzan's People, State and Fear is the milestone book of the Copenhagen School.

that an issue may initially evade political attention but can later be politicised within the standard political system, eventually framing it as a security imperative.

In securitisation theory, any subject has the potential to transition from a non-politicised state to being politicised or elevated to a national security concern, marked as securitised, as depicted in Figure 1.

Figure 1 Securitisation Spectrum

NON-POLITICIZED	POLITICIZED	SECURITIZED
• The state does not cope with the issue • The issue is not included in the political debate.	• The issue is managed within the standard political system • It is 'part of public policy , requiring government decision and resource allocation or, more rarely, some form of communal governance' (Buzan et al, 1998, p. 23)	• The issue is framed as a security question through an act of securitization • A securitizing actor articulates an already politicized issue as an existential threat to a referent object

Source: (Emmers, 2013, p. 133)

The securitisation theory encompasses individuals, groups, and abstract concepts like national independence, the environment, and the economy (Buzan et al., 1998, p. 42). Threatened individuals may seek protection from the state, political elites, military establishments, or civil society. The effectiveness of securitisation depends on the language used by the actor seeking protection, influencing the target audience. If a situation is politicised, it follows regular political procedures, but it can be securitised if immediate, undemocratic action is deemed necessary. Notably, a security problem does not have to be a severe threat; if not politicised, it may not be perceived as a problem, and government action is not mandated.

The success of a securitisation process involves three key steps:

- Identifying a critical threat,
- Recognising the need for urgent elimination of the threat,
- Acknowledging the necessity for extraordinary actions to eradicate the threat.

Successful securitisation processes are not guaranteed, and public support plays a crucial role, primarily since state-of-emergency measures may be implemented. The Copenhagen School's securitisation theory is grounded in speech act theory, asserting that specific individuals, particularly those in authority, possess the capability to perform extraordinary acts, like declaring war through words. However, the mere utterance of words does not guarantee successful action, and ordinary citizens lack the authority to declare war in such situations

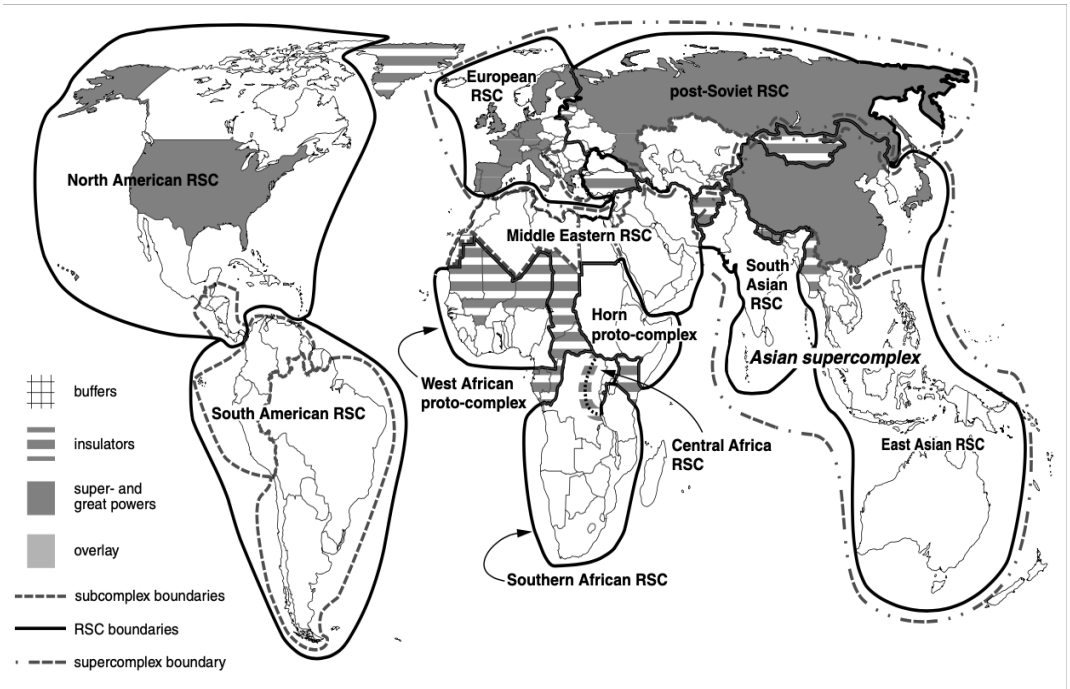
1.1.2. Regional Security Complexes: The RSC, a key concept introduced by the Copenhagen School, primarily focuses on specific regions' political and military dynamics. It emphasises that distance is crucial in shaping RSCs, highlighting that threats within these sectors tend to propagate more swiftly over shorter distances. In 2003, Barry Buzan and Ole Weaver proposed a detailed RSC theory, providing a conceptual framework for analysing post-Cold War regional security concerns and regimes.

According to the Copenhagen School, establishing an RSC requires states to align on security priorities and dynamics. This alignment fosters collaboration based on a shared perception of threats. Geographic closeness is a foundational element, but other factors, such as shared needs among complex states, historical relationships, common threat perceptions, designated adversaries, and past conflicts in the region, also play crucial roles.

The theory of RSCs, advocated by the Copenhagen School, emphasises regional dynamics in security studies. Buzan asserts that states are interdependent regarding security, with this interdependence assessed in a geographical context that underscores the significance of proximity. The theory divides the world into distinct regional groups, stressing the importance of considering intra-regional

dynamics in analyses. The visualisation of RSCs is depicted in the accompanying Figure 2.

Figure 2 The Map of Regional Security Complexes



Source: Buzan & Wæver, 2003, p. xxv.

Buzan underlines three theoretical viewpoints on the post-Cold War international security structure. Neorealism, a state-centric approach, focuses on power distribution in the international system and operates within a balance-of-power logic. In contrast, the globalist perspective opposes the static, power-political understanding of the international system.

The regionalist perspective utilised in the RSC theory is founded on two major presumptions. First, the decline of superpower rivalry diminishes global power interests in the rest of the world. Secondly, many post-Cold War major powers are now categorised as 'lite powers,' influenced by internal dynamics that steer them away from active military involvement and strategic competition in global hotspots. This shift grants local states and societies increased independence in handling military-political affairs.

The RSC theory incorporates elements of both neorealism and globalism, as territoriality and security are fundamental to both perspectives. Theory's practicality stems from its ability to guide security studies at the appropriate level of analysis, facilitate empirical research organisation, and enable the development of theory-based scenarios based on recognised forms and alternatives of RSCs.

1.1.3. Security Sectors: The third pillar in the Copenhagen School's contribution to the international relations theory is to enrich the international security agenda by integrating economic, political, environmental, social, and human security sectors into the discussion. With the publication of Security: A New Framework for Analysis in 1998, Buzan and his colleagues introduced the concept of security sectors to the literature on international relations and security. In this context, economic, political, environmental, social, and human security have introduced in international security literature and the traditional military security sector.

The security sphere encompasses a range of threats to human groups' existence, extending beyond military perils to political, economic, social, and environmental challenges (Tangör, 2012, p. 221). This broad perspective aligns with the Copenhagen School's approach, emphasising the need for the security domain to evolve and encompass various dimensions. As the Copenhagen School defines, the security sectors comprise all these sub-expansions, advocating for developing and broadening the security area to include personal, non-state, and group security concerns. The Copenhagen School's human security approach addresses critical issues that traditional state-centred and military approaches tend to overlook, offering a more holistic framework that acknowledges the diverse and interconnected nature of contemporary security challenges.

In his research, “Man State and Fear”, Buzan avoided providing a broad definition of security, even claiming that doing so would be counterproductive. He created a broad security framework regarding levels and sectors, pointing out some of the ignored inconsistencies and delving into crucial topics like anarchy, the defence conundrum, threats, security complexes, and the essence of the state.

According to Barry Buzan's research, "Man, State, and Fear", the safety of human societies is affected by the factors of five primary areas: Military, political, economic, social, and environmental factors. Military security concerns the two-level interplay between governments' armed offensive and defensive strength and perceptions of their intentions. Political security concerns a state's organisational stability, management system, and ideology that gives it legitimacy. Economic security refers to resources, funds, and markets required to keep welfare and governmental power manageable. Traditional linguistic patterns, culture and language, national identity, and customs benefit from social security, encompassing evolution and sustainability. Environmental security includes the preservation of the local and global biospheres, which serve as the foundation for all other humanitarian endeavours. These five sectors cannot exist independently of one another. Each specifies a focus and priority order within the concept of security, and they are inextricably intertwined (Buzan, 2015, p. 38). The following sectors are listed below:

1.1.3.1. Political Sector: Political threats impact the organisation of the state, posing challenges to its stability and political system. Like military threats, the state and its sovereignty serve as reference objects for political threats, with political security intricately linked to the beliefs and foundations empowering the state.

Political security primarily revolves around safeguarding the organisation of social order, where threats to state sovereignty take centre stage. While military threats to sovereignty can be addressed within the military sector, non-military risks fall under the view of the political sector. This sector presents unique complexities, positioned between the military and societal sectors, and is the most diverse among the other security sectors.

Barry Buzan highlights the multifaceted nature of political threats, targeting the organisational stability of the state. These threats can range from pressuring the government on specific policies to attempting to overthrow the government, fostering secessionism, or disrupting the political fabric to weaken the state before a military attack. The focus of political threats often centres on the idea of

the state, including its national identity, organising ideology, and institutional expressions. Given the essentially political nature of the state, political threats can be as concerning as military threats, particularly for weaker states. This state underscores the challenge of defining political security concerning national identity and military security.

1.1.3.2. Military Sector: The state remains the primary referent object, with state ruling elites as the predominant securitising actors. This is attributed to nations' substantial military resources, and ruling elites have legally and politically established themselves as the principal legitimate authority to wield force within and beyond their territories. The modern state's definition is grounded in sovereignty over a designated territory and population, emphasising its inherently territorial structure and aligning with its historical emphasis on the effective use of force for territorial control. While exceptions exist, such as state failure leading to prolonged periods of primitive anarchy, the traditional focus of military security is on states. However, other referent objects and securitising actors also play roles.

Military security concerns arise from internal and external mechanisms shaping and sustaining governance processes within human communities. The use of force is just one facet of the broader governance process, with military considerations intertwined with the terms and conditions of political legitimacy. The military security agenda centres on a government's capability to defend against internal and external military threats, extending to non-military challenges like immigration or alternative ideologies.

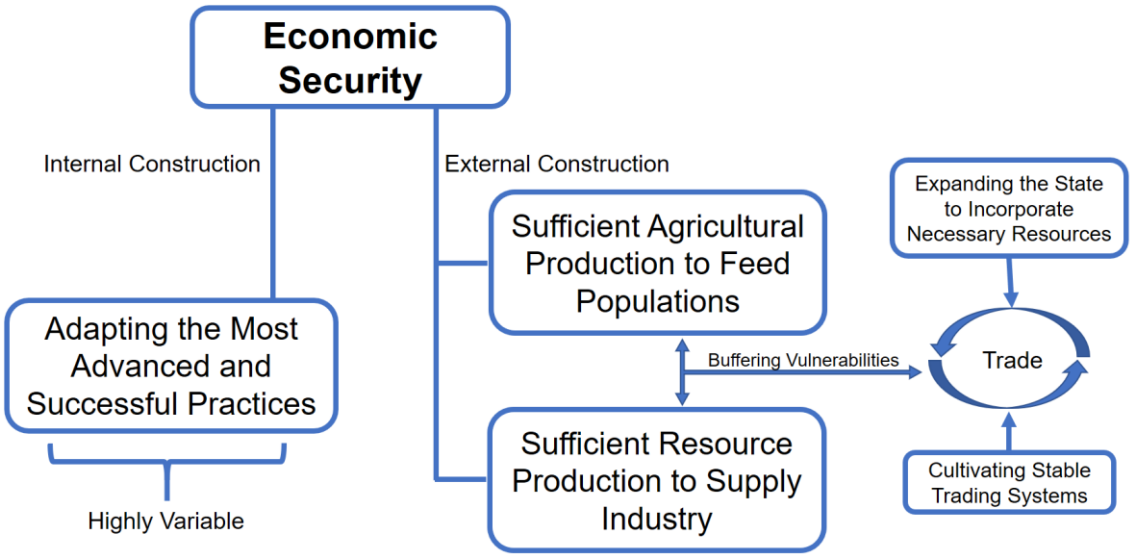
In mature democracies, the armed forces' primary function increasingly revolves around the state’s defence, and they may also engage in non-existential tasks like peacekeeping or humanitarian intervention. Military threats pose the most common source of national security concerns, affecting all components of the government. Unlike other security sectors, military risks involve the actual use of force, capable of causing structural disintegration and closing diplomatic channels.

1.1.3.3. Economic Sector: Economic security is best understood through the lens of basic human needs. The availability of necessities like food, water, clothing, housing, and education directly impacts individuals' lives and survival. From a different perspective, economic securitisation may require existential features for firms, especially when their failure threatens the economy.

States possess the characteristics necessary for securitisation, rooted as enduring structures. Unlike corporations, states cannot dissolve as economic players; they must navigate the economic landscape even if they fail to secure a winning position. Economic security for states involves securing the financial and market resources essential for their continued existence and maintaining the desired level of well-being. Economic security also includes ensuring adequate agricultural production to sustain the population and raw material production to support the industries.

Securing the state's survival by maintaining favourable economic conditions is the fundamental goal of economic security. However, the internal complexity of a state distinguishes it from an individual. Ensuring economic security requires considering the state's internal structure, where adopting advanced procedures from the international system becomes crucial for survival. A comprehensive understanding of economic security involves recognising the state's internal and external dimensions and acknowledging the interplay between domestic complexities and global dynamics in shaping a nation's economic resilience. Figure 3 illustrates the structure of economic security.

Figure 3 The Structure of Economic Security



Source: Author's preparation.

When ensuring a country's economic security, it is crucial to consider the internal structure of the economy. Unlike individuals, states possess a complex internal structure. The state's survival relies on embracing the most advanced and successful procedures from other regions as endorsed by the international system. Figure 3 illustrates the structure of economic security.

1.1.8.3.4. Societal Sector: Political security, revolving around the stability of state organisation, government institutions, and legitimacy-providing ideologies, is closely intertwined with societal security. Recognising individuals as community members is a crucial aspect of society, as their identities are often connected to political groups involved in governance. In interstate relations, significant external threats at the societal level can target national identity, potentially spilling over into politics due to the close connection between social conditions and the formation of values, traditions, and patterns.

Identity serves as the central organising concept in the societal sector. When communities perceive a development or potential as a threat to their survival, they experience societal insecurity. While extensive, independent identity groups are vital to societal security, these groups vary empirically across time and location.

It is essential to clarify two common misunderstandings about social security. First, societal security and social security are distinct; social security primarily focuses on individuals and is essentially economic, while societal security revolves around collectives and their identities. Secondly, "societal" is sometimes used broadly to refer to a more ambiguous state population, potentially encompassing groups without distinct identities.

1.1.3.5. Environmental Sector: Environmental disasters, such as earthquakes, fires, droughts, and infectious diseases, can be as destructive to a country as warfare. Historically, the environment was often viewed as a backdrop rather than a driving force, but increased human activity has elevated environmental issues. Environmental security involves preserving the environment as a life support system vital to all actors' survival.

The discourse on environmental security dates back to the UN Conference on the Human Environment, gaining momentum in the past two decades. One notable aspect is the existence of scientific and political agendas within the environmental sector. The scientific agenda, predominantly rooted in the natural sciences and non-governmental action, is crafted by scientists and research institutions independently of politics. It identifies environmental issues that could hinder civilisation's progress. In contrast, the political agenda revolves around governmental and intergovernmental issues, engaging in decision-making and policy formulation to address environmental concerns.

While the two agendas are interconnected and overlap, they follow different cycles. The scientific agenda adheres to academic standards, while short-term events, governmental decisions, media coverage, and public perceptions influence the political agenda.

1.2. FACTORS AFFECTING ECONOMIC SECURITY

The concept of power is pivotal in international relations, denoting the capacity to exert or withstand influence. Power also includes mental ability and decision-making. Strength implies a combination of physical and moral fortitude when applied to individuals. Analogously, this notion extends to state power, albeit with distinct functions and subsystems from those of biological entities. Much like individuals, a state's power lies in its ability to affect change materially and morally or to counter such influence with the backing of national power elements.

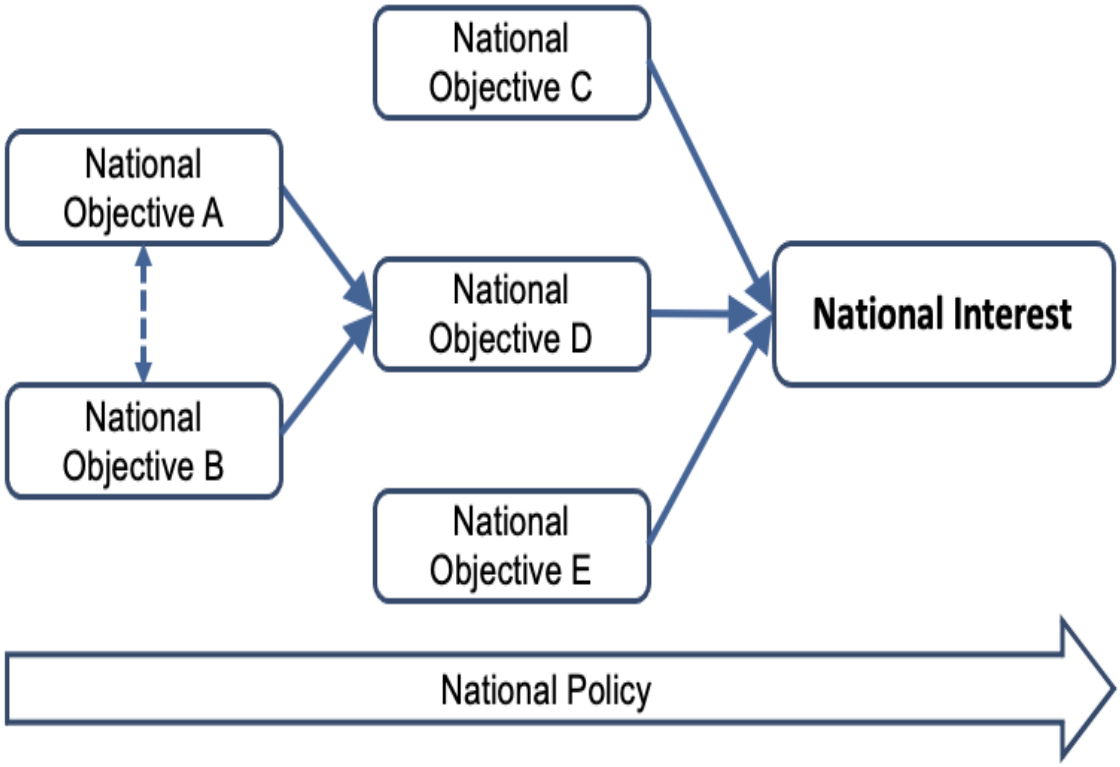
One of the reasons why the concept of state power has come to the fore and become essential is that there has yet to be an effective regulatory system in international relations, such as the domestic political system. The state's power, which may cause chaotic effects in international relations, can be divided into active and potential powers. Although these distinctions are independent of each other, there is a possibility that they may turn into each other for specific reasons. For example, the armed forces, which constitute a potential power with their presence in times of peace, manifest themselves as an active power element in times of crisis and war. In times of reconciliation, they may return to their pre-crisis potential power status. Considering the continuity of these transitions, preserving potential power is one of the most important conditions for maintaining state power.

The raison d'être of state power is one of the fundamental questions for maintaining this power. The existence will guide planning and direct the available resources for developing and maintaining state power. The existence of the reason for the state's power leads us to concepts such as national interest, national objective, and national policy. In this context, the primary purpose of the state's power is to realise national goals in the light of national policies and to achieve and protect national interests. As such, power serves as a tool for the state to achieve greater security (Arı, 2004, p. 169).

A national interest is critical to the security and well-being of its citizens and must be achieved or protected to enable them to survive (Bayat, 1986, p. 10). A

country's interest can be clearly stated in its constitution. For example, the preamble of the Constitution of the Republic of Türkiye describes national interests (TBMM, 1982, p. 1). National objectives are the results that, if achieved, lead us to national interests. From the Turkish perspective, resolving the Aegean Islands issue favouring the Turkish side can be a national objective. If it is resolved in favour of Türkiye, a situation threatening the Turkish nation's survival will be eliminated. In this context, national objectives have a narrower, variable and self-renewing structure than national interests. The relationship between national objectives and national interests is shown in Figure 4. This relationship may be unidirectional and straightforward, as shown in Figure 4 or a complex and interrelated structure.

Figure 4 Relationship between National Objective and National Interest.



Source: Author’s preparation.

National power is the sum of tangible and intangible elements that enable the achievement of national interests through national objectives. The elements of national power and how to make a comparison differ among researchers. According to Bayat, the elements of national power are;

- Political Power,
- Military Power,
- Economic Power,
- Demographic Power,
- Geographical Power,
- Scientific and Technological Power,
- Psycho-Social and Cultural Power (Bayat, 1986, p. 39).

As expected, there are other classifications for national power. According to NATO's doctrine, diplomatic, information, military and economic instruments are defined as elements of national power (NATO, 2017, p. 1-3). Furthermore, non-governmental organisations and regional institutions are complementary to states' capabilities. This definition has also been recognised by the United States Department of Defence (US Department of Defense, 2004, p. 358). Organski makes another classification in his study, World Politics. According to Organski, the elements of national power are mainly natural and social, geography, resources, population, economic development, political development and national morale (Organski, 1958, p. 124). He also stated that no single factor is responsible for national power; rather, the sum of the elements explains national power. Morgenthau, on the other hand, made a broader definition. He characterised the elements of national power as variable and fixed in character. According to Morgenthau, national power consists of geography, natural resources, industrial capacity, military preparedness, population, national character, national morale and quality of diplomacy (Morgenthau, 1948, p. 80).

1.2.1. Political Power: Politics involves the administration of state affairs and the allocation of resources. In this context, political power is the total efficiency of the political forces utilised by a state to attain national objectives, protect and develop those already attained, and secure the national interest (Bayat, 1986, p. 40). Just as morale is a society's soul, political power is its brain. This brain analogy stems from the importance and priority given to the use of resources (Morgenthau, 1948, p. 105).

Bureaucracy and political parties are crucial state institutions determining the state's political power. Both are essential institutions for the central government to mobilise its citizens to achieve national interests. Unless these institutions are effective, the state cannot be accepted to be modern or developed (Organski, 1958, p. 171). In underdeveloped states, the government needs help for disseminating its ideas to the masses, and as a result, citizens may be influenced by local administrators and separatist leaders.

1.2.2. Military Power: Due to its structure, military power is the most dynamic element among the elements of national power. Military power constitutes fighting power, and armed forces are the most critical sub-component of this power. Considering that wars are a total struggle, military power in the form of armed power is not independent of other elements. When it comes to military power, two concepts come to the fore. These are quantitative and qualitative superiority. Today, armies with innovative solutions, network-supported command and control capabilities, and a high readiness and adaptation to technology can be considered strong. In addition to quantitative superiority, it is necessary to be superior in these areas.

Military strategy directing military power should be developed to cover war and peacetime. The national objectives intended to be achieved by the political authority are realised and implemented through military strategy. The strategy foreseeing the achievement of national objectives identifies military targets and organises the military power necessary to attain these targets. Another critical issue as important as the organisation of military power is the projection of power. Power projection capabilities must be developed so that the military force formed with sufficient resources can be organised rapidly at the desired place and time.

1.2.3. Economic Power: Economic power is fundamental for national capabilities' sustainability, advancement, and expansion. It can encompass a nation's industrial capacity, utilisation of its populace as a workforce, balance in foreign trade, infrastructure, and the efficiency of economic governance within an institutional framework. Furthermore, the possession of underground resources and industrialisation can also contribute to economic strength.

A country without economic organisation and sufficient technology cannot use its underground resources and may have problems gaining a prestigious place in foreign politics. On the other hand, a country that has completed its industrialisation has many advantages. It can provide the advanced weapon technologies required for modern warfare. Furthermore, it can contribute to unity and solidarity among its citizens by creating a developed society. Moreover, it can expand its influence by enabling technology transfer to other countries.

Understanding the purpose of economic activity will help us develop and maintain economic power. Many economists from the neoclassical school of economics think that the right economic activity maximizes the utility of individual consumers and uses the world's limited resources efficiently. Although goals and values are essential, they are not of primary concern to economists. The main task of economics is to teach society how markets can function in the production of welfare and how these markets can efficiently contribute to production. How this welfare produced by societies is distributed among alternatives is a moral and political issue outside of economics (Gilpin, 2001, p. 23).

When it comes to achieving the ultimate goals, one of the questions to be asked is whether economic activities should serve individual utility, promote specific social welfare goals or maximise national power. This is a question that every society needs to answer. The objectives of a society determine the role of the market economy.

In every society, the objectives of economic activity and the role of markets are determined by political processes (Gilpin, 2001, p. 23). However, the market has a logic of functioning that cannot be ignored, and every gain has a price. For this reason, market and economic factors limit the state's ability to achieve its national objectives and interests.

As a significant actor in international relations, the state has important duties. To maintain the commitment to its citizens, a state or national government must fulfil various social, economic and political functions. Providing security for its citizens at home and abroad is the state's main function; no other organisation can

assume this responsibility (Gilpin, 2001, p. 45). Moreover, it must also ensure its economic security. For this reason, the state needs a protective policy to secure its citizens against international capital that moves away from the state's interests.

1.2.4. Demographic Power: Demographic power is formed by the totality of the population's qualitative and quantitative characteristics that constitute the state. It shows both static and dynamic characteristics. In comparing state powers, it needs more than the size of the population. State power should also be considered regarding education, health, and development. Suppose an evaluation is made without considering these factors. In that case, accepting China and India as the most powerful states with large populations makes no sense.

Regarding demographic power, population growth rate tendency should be emphasised when comparing states with similar national power. The importance of the ability of the population to support the state in case of mobilisation was observed in the Second World War. France recruited only five million, while Germany used fifteen million in military services (Morgenthau, 1948, p. 92).

Another issue to be considered when analysing the population is the age structure of the population. For all comparisons of power, a society with a young population is in an advantageous position. Although the quality of the population has been emphasised, there is no superpower country today with a population of less than fifty million (Organski, 1958, p. 144).

1.2.5. Geographical Power: Geography is the most stable and balanced element of national power (Bayat, 1986, p. 88). It provides resources to other elements of national power and allows for the evaluation of a country's natural resources within its geographical power. However, it is appropriate to consider the mines, which are seen within the scope of natural resources, within economic power when they are extracted and started to be operated. Likewise, sustainable energy resources in the country's geography become a part of economic power

when they start to be operated. According to Organski, the importance of geography for power is divided into four specific factors.

- The size of the territory controlled by a country,
- The climate,
- Topography,
- Location (Organski, 1958, p. 126).

Considering this distinction one by one, controlling the country's territory comes first. The protection and control of borders affect regional power struggles. Therefore, these controlled borders also determine the geostrategic position of the country. As in assessing demographic power, the size criteria are insufficient for geographical power. However, a large country has advantages such as providing an area sufficient for the population and various underground resources. Climate, another factor, is essential in terms of cultivating agricultural products. A country that is self-sufficient in food production can feed its surplus population because of external factors such as immigration. Although some authors argue that a country should have a mild climate to become a superpower, it cannot be said that climate has a high impact on determining national power (Organski, 1958, p. 133).

The topography factor effectively determines the borders and is a major factor affecting military operations. The direction of approach resulting from topography shapes the defence lines and the axis of attack. The last factor, location, will cause a country to allocate land, maritime and air forces. Controlling certain regions, straits, canals or passages in the world, whether naturally or artificially created, contributes to national power.

1.2.6. Scientific and Technological Power: Scientific and technological developments support and contribute to other elements of national power. However, for this contribution to be at the desired level, the country should support, direct and encourage science and technology. For scientific and technological power, which determines the level of modernity of the state, it is

necessary to make investments in education and R&D that can yield results in the long term.

The use of scientific information in practice is defined as technology. Technological developments should be made in the light of future foresight. Countries striving to increase their national power should make the necessary plans to obtain the necessary technological developments they will need.

2.2.7. Psycho-Social and Cultural Power: The element of national power that is relatively difficult to understand is psycho-social and cultural power. It consists of the character, morality and culture of human power. Psycho-social and cultural power, which supports other elements of national power, includes factors such as values, beliefs, attitudes, family structure, cultural characteristics, language, religion, general health status, literacy rate and the structure of educational institutions, as well as issues such as national character, behaviour and morale.

Morale is one of the issues that should be emphasised in this context. Morale encompasses the level of affection for one's country, nationalism, and spiritual strength. The morale of citizens, especially soldiers, is a distinguishing feature between the parties in wars. For example, during the Independence War, the Turkish soldiers with high morale in the Battle of Sakarya were victorious against the Greek forces and started a counter-attack with increasing morale.

Cultural corruption can cause the collapse of states. The corrupt attitude of the administration negatively affects psycho-social and cultural power. Developing psycho-social and cultural power in this century will strengthen the survival of states. To achieve this goal, states aspiring to become regional power, or superpowers should focus on cultivating various talents. These include composers whose compositions gain global recognition, architects capable of contributing to international projects, writers whose books are translated into numerous languages, scriptwriters whose works are performed worldwide, and painters whose art is highly esteemed. To nurture such individuals and promote its culture, a state requires a robust economy and a consistent education policy.

In conclusion, national power elements are pivotal for economic security within capitalism. Navigating economic complexities demands a balanced approach, utilising diverse elements of power to safeguard interests and foster sustained development. Recognising the interplay between these elements is crucial for formulating effective policies in an ever-changing global landscape.

1.3. LEVELS OF ECONOMIC SECURITY

Economic security can be analysed from the perspective of the individual, the firm, and the class perspective. This type of analysis helps to understand the state system. Different economic security problems exist at these levels and must be analysed separately. For example, we face a dilemma in terms of economic security if we consider the individual as the basic unit. Because there is a dilemma whether to fulfil basic human needs or to be defined by living at a certain level of welfare. If the fulfilment of basic human needs is considered sufficient, the Soviet-style may decrease the individual's standard of living. On the other hand, if a certain standard of living and welfare conditions are aimed, market intervention will be necessary (Buzan, 2015, p. 193). The criterion for the success of the economic system in the context of the individual may be that it provides relative prosperity and security, avoiding extreme examples.

Economic security at the state level is a part of national security. Economic security at the state level is similar to the problems encountered at the individual level. At the individual level, a goal reduced to survival is a simplified approach. Standards above survival can reduce vulnerability and increase productivity in the long run.

Defining an economic security problem is relatively easy. The challenge lies in determining which strategy to develop to solve this problem effectively. According to Buzan, there are two dominant views: mercantilist and liberal (Buzan, 2015, p. 195). The mercantilists approach accepts the problem from the producers' point of view, and the country's reliance on its resources is more important than productivity. In this view, national security interests are prioritised on the

sufficiency of national economic resources. However, it does not recognise the problems arising from the market economy.

The liberal view focuses on the consumer side of the problem. According to the liberal view, the main objective is to maximise production possibilities. This strategy aims to maximise efficiency in the allocation and utilisation of resources on the existing production possibilities curve. (Buzan, 2015, p. 198). Liberals believe that these weak points will be solved and eliminated by the free functioning of the market. However, the liberal argument also asserts that benefits from economic efficiency will provide the resources to overcome the problem of adaptation to new practices.

The contradictions of economic security are also valid in international markets. The global market network has to operate in a volatile, trans-state and uncertain political environment. A divergence between political authorities and global markets can lead to turmoil and even collapse. Internal and external causes may threaten the functioning of these global networks.

Economic security is a multifaceted concept encompassing various levels of analysis, with existing literature identifying three primary dimensions: individual economic security, national economic security, and international economic security. At the individual level, economic security relates to individuals' financial well-being and stability, ensuring their ability to meet basic needs and navigate economic uncertainties. National economic security centres on a country's capacity to safeguard its economic interests, promote development, and mitigate risks at the national level. On the international stage, economic security involves the collaborative efforts among nations to foster global economic stability, manage interdependencies, and address shared challenges. These distinct dimensions highlight the diverse perspectives and considerations within the broader concept of economic security.

1.3.1. Individual Economy Security: This section explores the literature on individual economic security, highlighting how various studies address individuals' financial stability and resilience. It examines economic security at the

personal level and discusses strategies to mitigate risks. The study of the International Labour Organization (ILO) (2004) strongly advocates recognising basic economic security as an inherent human right, emphasising income and representation security (ILO, 2004, p. vi). Despite the anticipated benefits, globalisation has yielded little economic growth but instead heightened instability and crises, leading to the underestimation of poverty and an increase in income inequality. Social security systems worldwide show a concerning trend towards reduced universality, amplifying societal disparities. The study of ILO (2004) highlights hidden unemployment by criticising unemployment, particularly in "transition" countries. The study of ILO (2004) states that de-unionisation is a global phenomenon, and an inverse correlation is observed between economic security and income inequality (ILO, 2004, p. xxi). Despite a weak correlation with economic growth, widespread support exists for redistributive measures and a guaranteed minimum income. However, individuals facing economic insecurity may lean towards supporting discriminatory practices.

Hasan Alkın (2017) highlights that the economic security of individuals and macro-level security problems are interlinked. He underlines that these problems are not entirely separate fields but are also in close relationship and interaction (Alkın, 2017, p. 4). Implementing macroeconomic policies at the national level may exert discernible impacts, either directly or indirectly, on the economic security of individual citizens. An illustrative instance of this interplay is evident in foreign economic policies that advocate for agricultural protectionism, concurrently pursuing safeguarding rural populations' economic sustenance (Dent, 2007, p. 205). He also states that the transition to an integrated national security approach necessitates accurately identifying and conceptualising new areas of security significance. Specifically, a precise analysis of a country's strengths, weaknesses, risks, and threats is crucial in economic security. Addressing these aspects requires formulating a comprehensive strategy guided by an appropriate vision and supported by a capable institutional structure and human resources (Alkın, 2017, p. 27).

Like ILO, ICRC (2020) also introduced an economic security strategy underlying the vital role of economic security in assisting individuals and communities impacted by conflict, violence, and climate challenges. Emphasising a balanced approach, it seeks to provide timely aid while achieving long-term outcomes, reinforcing emergency capacities, and promoting self-sufficiency. The strategy underscores the importance of data, analysis, talent management, and structured partnerships by aligning with accountability principles. The mission is to sustainably assist those affected, guided by a vision supporting vulnerable populations from emergency to recovery, adhering to the humanitarian imperative of "do no harm" (ICRC, 2020, p. 10).

1.3.2. National and International Economy Security: Joseph Nye (1974) argues the gradual development of the concept of collective economic security, acknowledging challenges rooted in nationalistic economic perspectives (Nye, 1974, p. 598). His research emphasises the need for a general principle of international awareness and concern to preserve joint economic gains. He suggests that various institutions will be necessary for effective implementation rather than a single solution. The UN Economic and Social Council (ECOSOC) is proposed as a potential focal point, with recommendations for improved procedures, year-round meetings for systematic reviews, and evaluation of UN organisations' contributions (Nye, 1974, p. 598). He further emphasises the importance of preserving cooperative structures in a world of conflict and change.

Walter Mondale (1974) asserts that global politics prioritise economic issues over traditional security concerns. Despite persistent challenges like nuclear arms competition, the primary fear is the potential instability of the international economy. Then, he adds that Western nations no longer have complete control over economic security (Mondale, 1974, p. 1). He proposes a set of solutions to sustain international economic security:

- “A deeper measure of coordination of national and international economic policies among the industrialized nations in Europe, North America, and Japan.

- A new role for the oil-producing countries in the management of the international economy and new responsibilities for aiding stability, growth, and in the poorest countries, economic development.
- A new relationship between the industrialized and raw material producing countries assuring more stable prices and supplies.
- A more constructive involvement of the Communist countries, particularly the Soviet Union, in world trade and the task of economic development."[4] (Mondale, 1974, p. 21)

Mondale concludes that addressing economic security threats requires aligning foreign policy seamlessly with domestic policy.

Carl Richard Neu and Charles Wolf (1994) studied the economic dimension of national security. The research states that the post-Cold War era has redirected focus from military threats to broader issues impacting the United States. A primary concern is national economic security—ensuring the protection and advancement of economic interests in the face of potential threats (Neu and Wolf, 1994, p. xii). As an integral part of the global economy, engaged in world markets and interconnected with international financial factors, enhancing global economic security becomes essential for US economic and physical security. A resilient military response to threats relies on sturdy economic foundations, where economic instruments act as non-military defence, and defence considerations can influence the economy. Neu and Wolf conclude that the US should aim to accomplish these objectives in the below:

- Maintaining access to foreign markets,
- Creating a stable international financial environment,
- Promoting market-oriented economic policies,
- Maintaining a functioning international commercial and financial infrastructure,

[4] These observations were made in the context of a bipolar world.

- An equitable distribution of domestic income (Neu and Wolf, 1994, p. xvi).

In his research, Vincent Cable (1995) explores the evolving relationship between international economic and security concerns, attributing blurred lines to the disappearance of the Soviet Union. Economic integration gains momentum without a clear security agenda due to heightened global interdependence. 'Economic security' is questioned in a world marked by uncertainty and risk in liberal capitalism (Cable, 1995, p. 306). Different economic security definitions are discussed, covering trade, investment, and concerns about the link between military capacity and economic performance.

Simon Dalby (1997) states his concerns about extending the definition of security. In the 1990s, economic security became a focal point for the Clinton administration during his presidency in the United States and American policy journals, specifically concerning Japanese influence. He adds that this sparked protectionist debates and a "geo-economic" discourse. Concerns about relinquishing control over crucial technology amid the conflict between global trade and national capabilities surfaced. Economic espionage underscored a persistent geopolitical perspective on security linked to borders, prompting questions about its applicability in a globalised economy (Simon, 1997, p. 13). The study supports the international cooperation to address state capabilities in the era of globalisation, emphasising economic security and challenging assumptions about security tied solely to affluent democratic states.

Bjørn Møller (2000) follows a comprehensive approach by explaining referent objects as states, collectivities and individuals. The study delves into the historical focus of international relations on the state as the central object of security, often neglecting individual and societal security. In the 1980s, "Common Security" emerged, advocating mutual restraint and international cooperation to address security challenges, although it lacked rigorous theoretical analysis. The discussion extends to "Collective Security," which entails transferring powers from states to international authorities, challenging state sovereignty. The study poses the question of "Whose Security?". It addresses the tension between state

and individual security, asserting that both are vital and distinct concepts, without one level being inherently more correct than the others. It emphasises that the definition of security at each level is arbitrary and contingent on one's perspective (Møller, 2000, p. 1).

Benjamin Miller (2001) explores the ongoing debate on redefining security in the post-Cold War era, contrasting traditional realist perspectives with advocates for expansion to encompass non-military elements like environmental issues. He rejects both extremes, suggesting a nuanced approach prioritising organised violence and armed conflicts while recognising the significance of non-military factors in fostering peace. Using the Israeli case as an illustration[5], the text supports a balanced security strategy that integrates national defence with regional peace initiatives (Miller, 2001, p. 37). The study emphasises the importance of adopting a comprehensive viewpoint to address contemporary security challenges effectively.

Helen E. S. Nesadurai (2004) highlights the interconnectedness of economic growth and distributive justice, emphasising the inherently political nature of economic policy-making. The study suggests that defining and managing economic security involves political struggles over wealth and power within states and among various stakeholders. The study further proposes re-evaluating governance to address marginalised groups' needs, questioning the free market's adequacy alone. The idea of a developmental state, integrating both market and society, is mentioned as a potential solution, citing examples from Thailand and China (Nesadurai, 2004, p. 481). The importance of checks and balances, particularly democratic institutions, is emphasised. The study concludes by suggesting a comprehensive approach to economic security that considers both micro and macro elements for states' and populations' sustained well-being.

Miles Kahler (2004) underlines that the landscape of economic security has evolved with globalisation, moving beyond concerns about vulnerability to other states to address risks posed by non-state actors and the unpredictable nature

[5] 1967 Arab-Israeli War.

of the global economy. He states that national institutions are crucial, complemented by regional and global counterparts. In the post-Cold War era, attention has shifted to the risks of open borders and economic volatility. According to Kahler, this redefined perspective on economic security prompts discussions on managing costs and risks while safeguarding the benefits of globalisation. The policy approach varies, with national policies adapting and the potential for increased significance of regional institutions. The current emphasis on economic security might be a temporary response as societies grapple with the challenges of economic openness. Over time, as institutions develop, economic security may become a routine aspect of economic management (Kahler, 2004, p. 501).

Zhengyi Wang (2007) studies the complexities of gauging a nation's economic security, recognising the diverse factors influencing each country's viewpoint. According to Wang, economic security is articulated as the capability to consistently enhance the standard of living through national economic development while upholding economic independence (Wang, 2007, p. 66). Wang underscores the dual facets of competitiveness for robust development and autonomy to shield against external influence on the economy.

Czeslaw Mesjasz (2008) underlines the challenges in defining economic security, highlighting its connections to other sectors and inherent insecurities in market activities. He emphasises the need for a comprehensive examination, including macroeconomic and institutional aspects, utilising systems thinking and advanced economic theory. The conclusion of his study suggests research directions, such as securitisation in the economic sector, links between risks and vulnerabilities, financial security, and relations between economic security and other sectors, particularly human security (Mesjasz, 2008, p. 580). His research also covers both individual and international economic security and suggests that individual economic security should be considered the concept of human security.

Benjamin Yeung (2008) examines China's economic security discourse from 1997 to 2004, which was shaped by the Asian financial crisis and heightened

global integration. Yeung argues that scholars pursued varied approaches, indicating a shift in threat perception. While not fundamentally challenging the prevailing Realist Security conception, economic security gained prominence, particularly under the fourth-generation leadership of Hu Jintao (Yeung, 2008, p. 656). Yeung concludes that continuous monitoring and analysis of developments in Chinese economic security discourse remain imperative.

UK government (2010) also sets a national strategy highlighting economic security. The UK national strategy calls for a fundamental shift in national security thinking to adapt to an era of uncertainty. The strategy highlights economic and national security interdependence, stating that an economic deficit is also a security deficit (HM Government, 2010, p. 4). The strategy outlines pursuing national interests through collective security, an open global economy, and key alliances. The 'whole of government' approach, which is one of the determinants of the strategy, prioritises domestic resilience and addresses overseas instability to prevent risks in the UK. Acknowledging fiscal constraints, the strategy emphasises the importance of careful prioritisation in strategic investments for civilian and military capabilities.

Michael E. Smith's (2010) study examined economic security from an international perspective. The study explores the elusive definition of 'economic security' and its relevance to core international security issues. It emphasises the interconnectedness of economic factors with problems such as arms races, intrastate war, and conflicts over identity. It also aims to summarise the ongoing debate on international economic security, highlighting the discord among major powers. The study concludes two main points: the global economy faces chronic management problems, prioritising growth over equity and stability, and the US's economic hegemony is challenged by rising powers like the BRIC bloc and the EU (Smith, 2010, p. 207).

Sheila R. Ronis (2011) aims to address the oversight of economic elements in national power by establishing a framework for a national "grand strategy". The research underscores the need for long-term, whole-of-government strategies and suggests for systemic thinking, integrating major elements of national power.

It states the impact of globalisation on interconnectedness and stresses the importance of understanding complex systems for effective planning (Ronis, 2011, p. 108). The key message of her study is the need for proactive, strategic planning to maintain US leadership and ensure a better, more accessible, and more secure future.

Larisa Jankovska et al. (2018) examine the legal and economic underpinnings of ensuring national economic security amid Ukraine's integration into the European economic and political sphere. Their research underscores the necessity for adaptable legal regulations to counter threats in the changing global economic landscape. The study focuses on formalising mechanisms and steering economic development within European integration. Emphasising the significance of economic security as a pivotal component of national security, the study highlights the practical importance of understanding this concept for effective social and economic development (Jankovska et al., 2018, p. 350). The research methodology employs diverse scientific approaches to analyse economic security comprehensively as a complex and multi-aspect phenomenon.

EU also underlines the vulnerabilities revealed by the COVID-19 pandemic, Russia's invasion of Ukraine, and escalating geopolitical tensions, emphasising the EU's need to address economic security challenges. EU’s economic security strategy advocates for establishing a common strategic framework to optimise the benefits of economic openness while mitigating risks. The proposed strategy aims to assist the EU and its Member States in collectively identifying, assessing, and strategically managing economic security risks, utilising existing tools and developing new ones when necessary.

As depicted in Figure 5, the strategy emphasises the promotion of EU competitiveness, safeguarding economic security through various tools, collaborating with reliable allies to address shared concerns via trade agreements, reinforcing international rules, and investing in sustainable development (European Commission, 2023, p. 1).

Figure 5 European Economic Security Strategy.

PROMOTING
the EU's competitiveness by bolstering its Single Market, innovation, technological and industrial capacities.

PROTECTING
the EU's economic security through a range of existing and new tools.

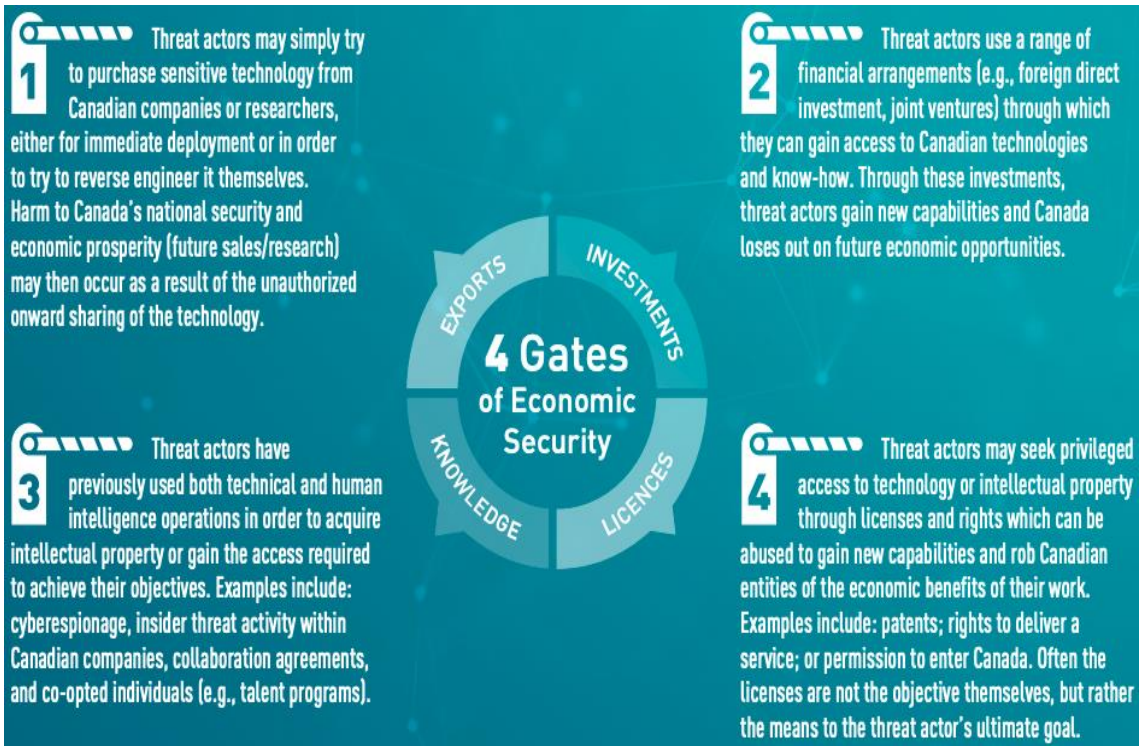
PARTNERING
with others to strengthen economic security, notably by working with reliable partners to address shared security concerns through diversified and improved trade agreements, strengthening international rules and institutions, and investing in sustainable development.

Source: Factsheet on EU Approach to Enhance Economic Security, 2023.

During the 2020 COVID-19 pandemic, the Canadian Security Intelligence Service (CSIS) swiftly briefed stakeholders through virtual sessions for the academic community and major organisations, reaching over 225 entities and 2000 stakeholders (CSIS, 2021, p. 20). Using the Four Gates of Economic Security framework[6], CSIS informed about the economic security risks from foreign interference. The Four Gates of Economic Security framework consists of imports-exports, investments, knowledge, and licences, as depicted in Figure 6.

[6] CSIS has introduced the Four Gates of Economic Security framework to explain the economic security risks posed by foreign interference and espionage.

Figure 6 The Four Gates of Economic Security Framework.



Source: CSIS, 2004, p. 19.

The report states that the agency continued to engage sectors in 2021 to mitigate threats proactively. The CSIS report states that the pandemic accelerated foreign threat actors' exploiting conditions for espionage, prompting ongoing intelligence collection by CSIS. The agency was crucial in scrutinising foreign investments, ensuring they did not jeopardise Canada's economy or national security.

Rosario Adapon Turvey (2023) explores economic security's diverse dimensions, emphasising connections with the nation-state, households, individuals, and various sectors, which aligns with Buzan's five-sector framework:

- **Human Rights Perspective:** Positions economic security as crucial for well-being, echoing Buzan's integrated security concept.
- **Globalisation and Challenges:** Discusses urgency due to socio-economic challenges, aligning with Buzan's consideration of global dynamics.

- **Socio-Economic Challenges:** Acknowledges challenges contributing to economic insecurity, resonating with Buzan's concept of security sectors.
- **Inequality's Impact:** Explores inequality's implications for economic security, aligning with Buzan's social security sector.
- **Global Perspectives:** Covers economic diplomacy, the labour sector, global development, and more, aligning with Buzan's political, economic, and environmental security sectors.

Turvey's book underscores the importance of a multi-lensed approach, aligning with Buzan's framework, and recognises the interdisciplinary challenge in analysing economic security (Turvey, 2023. P. 3). It emphasises the need for a nuanced, multi-disciplinary approach to address the dynamic nature of security concerns.

The study posits that the quality of governance significantly influences a country's economic performance, thereby contributing to its economic security. Governance plays a crucial role, affecting policy efficacy, regulatory frameworks, and political stability, all of which contribute to a country's overall economic well-being. Institutional frameworks, including legal, political, and economic institutions, are critical for ensuring economic security, underscoring the importance of well-established and functional institutions in protecting a country's economic interests and promoting stability.

Economic security is seen as contingent upon the robustness and stability of a nation's economic performance, inherently linked to the efficiency and efficacy of its governance structures. Assessing economic output as a primary indicator helps gauge the prosperity and resilience of an economy, recognising that higher output often corresponds to increased economic security. However, economic security extends beyond GDP metrics, encompassing broader considerations such as the equitable distribution of resources, the strength of regulatory frameworks, and political stability, all of which are closely tied to governance quality. This study aims to offer a nuanced understanding of economic security,

highlighting its multifaceted nature and the central role of governance in its determination.

The next chapter begins by elucidating the scientific and historical roots of security formulas across various categories, which are then expounded in the context of food security, energy security, health security, industry security, and similar studies on governance.

CHAPTER 2:
LITERATURE REVIEW

This chapter delves into the prevalent formulas employed for computing national security. This thesis scrutinises the utilised indicators along with the theoretical and philosophical foundations. The presentation of computations based on security formulas offers a contemporary perspective on global security distribution. A distinction is drawn between theoretical and functional security formulas, centring on those intended for calculation. These security formulas involve multiple variables, ranging from two to 63, with the advent of the internet influencing the variable count in research. Notably, single-indicator security assessments are excluded from the thesis.

The chapter initially elucidates security formulas' scientific and historical roots across various categories. These categories are subsequently expounded in the order of food security, energy security, health security, industrial security and similar studies on governance.

2.1. FOOD SECURITY

Over the past five decades, the definition of food security has evolved and broadened, encompassing the establishment of four frequently cited pillars: availability, access, utilisation, and stability, all influencing policymaking (Clapp et al., 2022, p. 1). Recent decades have witnessed a heightened awareness of significant concerns affecting hunger and malnutrition, such as widening food system inequities marked by unequal power dynamics and escalating global climatic and ecological catastrophes.

Recent data indicates that more than 2.37 billion people face a persistent challenge in obtaining consistent access to safe, nutritious, and adequate food. (FAO, 2021). The global count of undernourished individuals increased in 2020, with 720 to 811 million people unable to attain their Minimum Dietary Energy Requirements (MDER). Despite the commitment outlined in the UN’s second Sustainable Development Goal (SDG 2) to eliminate hunger and malnutrition by

2030, hunger is experiencing a gradual resurgence following decades of reduction.

The Food Insecurity Experience Scale (FIES) is an eight-question survey evaluating food insecurity based on respondents' real food access experiences. Functioning at the household or individual level, FIES relies on direct yes/no responses to eight brief questions on food access. It is a statistical measuring scale akin to those for assessing unobservable attributes, encompassing aptitude/intelligence, personality, and various social, psychological, and health-related issues. FIES is a globally calibrated leading indicator of food insecurity, ensuring cross-country comparability (Ville et al., 2019, p. 483).

The Global Food Security Index (GFSI)[7] also serves as a comprehensive measure that assesses food security at the national level across 113 countries. It considers various factors such as food affordability, availability, quality, safety, natural resources, and resilience to holistically evaluate a country's food security holistically. Developed by the Economist Intelligence Unit (EIU) in collaboration with experts, GFSI employs 58 unique indicators to quantify factors influencing food security in developed and developing countries. The methodology undergoes annual evaluation to maintain credibility and reliability as a widely cited global food security information source.

The Global Hunger Index (GHI) tracks global, regional, and national hunger levels annually. Calculated scores monitor progress and setbacks in the fight against hunger. The GHI aims to enhance awareness and knowledge of hunger, providing a tool to compare hunger levels across countries and regions and drawing attention to areas with the highest hunger levels. Additional measures to combat hunger are urgently required, with income identified as a powerful motivator in the food system. Researchers analysing trends in the GHI and long-term food security drivers found that the impact of policies targeting specific

[7] https://impact.economist.com/sustainability/project/food-security-index/

drivers can vary significantly based on the sample size and circumstances (Laborde et al., 2016).

The Famine Early Warning Systems Network (FEWS NET), established in 1985 by the US Agency for International Development (USAID), is a global leader in early warning and analysis of acute food insecurity. Providing evidence-based analyses, FEWS NET aids governments and relief groups in planning for and responding to humanitarian disasters, contributing to resilience and development programming. Collaborating with various entities, FEWS NET issues monthly reports and maps detailing current and predicted food insecurity and alerting stakeholders to impending or likely crises.

The Integrated Food Security Phase Classification (IPC) is a multi-partner program aiming to enhance food security and nutrition analysis and decision-making. Stakeholders collaborate to assess a country's acute and chronic food insecurity and acute malnutrition conditions, utilising classification and analytical techniques based on internationally recognised scientific criteria.

Leroy et al. sought to clarify the assessment of food security's food access dimension at domestic spending levels, uncovering nine variables categorised as experience-based, coping techniques, and dietary diversity. They recommended ongoing development and evaluation of new methods to comprehensively assess various dimensions and components of food security, including compound indices (Leroy et al., 2015, p. 191).

Using data from 1970 to 2010, Smith and Haddad investigated factors influencing cross-country decreases in stunting in their study. They identified income growth and effective governance as fundamental factors affecting changes in child undernutrition. Crucial variables included hygiene, safe water availability, women's schooling, sexual equality, and level of food (Smith & Haddad, 2015, p. 180).

Several international studies examining child stunting rates, primarily linked to national food security, indicated that countries with higher baseline Gross

National Product (GNP) and increased per capita GNP experienced more significant reductions in stunting. Headey examined the impact of changes in overall developmental determinants on child stunting rates within countries. The findings revealed that overall economic growth generally led to reduced stunting. However, limited evidence supported the idea that agricultural growth played a distinct and significant role in this reduction (Headey, 2013, p. 76).

2.2. ENERGY SECURITY

In recent years, energy security has garnered considerable attention within the literature, covering various topics. Numerous studies have introduced various energy security indicators to either compare a country's performance or track changes in performance over time. There are substantial variations in the selection of indicators and the structuring and creation of compound energy security indexes. Assessing energy security with a single metric proves challenging; therefore, it is commonly explored using a set of indicators within a predefined framework (Ang et al., 2015, p. 1083).

Lefèvre's investigation explores the intricate relationship between energy security and measures to mitigate climate change (Lefèvre, 2007, p.12). The study introduces two innovative indicators highlighting the energy security consequences associated with resource concentration. The research differentiates between the price and physical availability aspects of energy security, providing a characterisation for the former while concentrating specifically on the latter. The research also puts forward an approach for evaluating the linkages between energy security and climate change policies, employing a combination of qualitative and quantitative assessments. The quantitative aspect involves constructing energy security indicators and tracking policy concerns related to energy resource concentration. The indicators are applied to reference scenarios and CO2 policy instances for five real-case countries: the Czech Republic, France, Italy, the Netherlands, and the United Kingdom (Yu et al., 2022, p. 2).

The World Energy Council (WEC) introduced its inaugural index in 2008 as a valuable tool for identifying responses and solutions to imminent energy transitions. The WEC evaluation encompasses institutions, the economy, social capability, and equity, forming the basis of the Energy Policy and Practices Index. The index includes 46 policy indicators divided into 12 building blocks, one dedicated to energy security (Narula & Reddy, 2015, p. 151).

The World Economic Forum's Energy Architecture Performance Index (EAPI) assesses the progress of the global energy transition by evaluating the energy systems of 127 countries. In the 2018 study, countries are assessed based on 18 metrics covering various aspects such as contributions to economic growth and development, environmental sustainability, energy availability and security. The primary objective of the index is to gauge the effectiveness of national energy systems, enabling comparisons across different countries (Standring, 2017, p. 5).

Since 2010, the World Energy Council has produced the World Energy Trilemma Index annually in collaboration with global stakeholders. Energy sustainability comprises three dimensions: energy equity, energy security, and the environmental sustainability of energy systems. The Energy Security factor underscores the importance of robust energy policies in optimising locally available resources while expanding and decarbonising energy systems. In the 2021 study, Canada, Finland, and Romania secured top positions in the Energy Security ranking among OECD and European countries (World Energy Council, 2021, p. 8). The Energy Security Index also evaluates a country's capacity to meet current and future energy demands and withstand and swiftly recover from system shocks with minimal supply impact. Table 1 illustrates major indicators and indices developed by critical organisations.

Table 1 Major Energy Indicators and Indexes by Organisations

Institution / Organisation	Name of index / Indicator	Topics	Indicators
UK Department of Trade and Industry	JESS Indicator	Security of Supply and identification of gaps	11
US Department of Energy	Geopolitical energy security proxy measure;		2
IAEA	Energy indicators for sustainable development	Equity; health; energy use and production patterns; security	31
IEA	Energy security index	Energy price; physical availability	2
Scheepers et al.	Crisis capability index	Crisis capability demand/supply	63
Jewel	IEA model of short-term energy security	Oil products, biomass and waste, hydropower, nuclear power	35
ERIA	Energy security index	Development of domestic resources; acquisition of overseas resources; securing a reliable domestic supply chain; preparedness for supply disruptions	16
Institute for 21st Century Energy	International Energy Security Risk Index	Global fuels; energy expenditures; price and market volatility; electric power sector; transportation sector	28
WEF	Energy Architecture Performance Index (EAPI)	Economic growth and development; environmental sustainability; access and security of supply	16
WEC	Energy sustainability index	Energy security; social equity; environment impact mitigation; political strength; societal strength; economic strength	21
WEC	Energy Policy and Practices Index	Institutions; economy; social capacity and equity; environment	50

Source: Author's preparation

2.3. HEALTH SECURITY

The Global Health Security Index (GHSI) emerged in response to the 2014 Ebola outbreak, aiming to evaluate countries' preparedness for handling epidemics (Aitken et al., 2020, p. 318). Assessing six areas, 37 indicators, and 171 questions, the 2021 GHSI examines prevention, detection and reporting, rapid response, health systems, compliance with international norms, and the risk

environment (Bell & Nuzzo, 2021, p. 44). This comprehensive evaluation compares health security with critical elements like political and security issues, global norm adherence, and overall health system strength.

In 2012, the United States Centers for Disease Control and Prevention (CDC) initiated the National Health Security Preparedness Index, monitoring the nation's readiness for disasters and large-scale emergencies. By analysing the country's preparation, reaction, and recovery performance, the index utilises existing government national public health data from various sources. It raises public awareness, fosters collaboration among sectors, informs planning and policy formulation, and encourages research on preparation and health security (National Health Security Preparedness Index Program Office, 2021, p. 1).

The WHO's Joint External Evaluation (JEE) is a voluntary, collaborative, multisectoral process assessing a country's capacity to prevent, detect, and respond to public health threats. The JEE assists countries in identifying gaps in their systems, facilitating international recognition, sharing best practices, enhancing accountability, and informing the application of International Health Regulations (IHR) (World Health Organization, 2018, p. 9).

The Global Health Observatory (GHO)[8] dataset, serving as WHO's portal, provides health-related statistics for 194 member countries across various priority health topics.

The Residency and Citizenship Group (RCG)[9] introduces the RCG Global Health Index, evaluating countries based on general population health and the healthcare system, considering factors relevant to relocation and healthcare costs.

The Health Metrics and Evaluation (IHME) offers the Global Burden of Disease (GBD) Index, a valuable resource providing insights into global health concerns. The GBD Index includes standardised cause of death and risk factor estimates,

[8] https://www.who.int/data/gho
[9] https://www.goldencapitalist.com/

contributing to a Healthcare Quality and Access (HAQ) Index for 195 nations and territories (Healthcare Access and Quality Collaborators, 2017, p. 231).

In addition to these indexes, the WHO's Global Health Estimates[10] present the latest statistics on causes of mortality and disability worldwide, drawing from various sources, including national vital registry statistics, UN partners, and scientific research. Furthermore, the WHO tracks progress on SDG 3, Good Health and Well-Being, and other related goals[11].

2.4. INDUSTRIAL SECURITY

Given that industrial security is often perceived as limited to the protection of industrial technology protection, most research in this field tends to focus specifically on this aspect. However, despite its broad scope, designating a single field as part of industrial security is a significant challenge (Lee, 2017, p. 303). The term "industrial security" is frequently used in industrial security research in a vague, inaccurate, and convenient manner, necessitating a precise definition based on logical consistency and practical feasibility.

While the industrial security issue is recognised as a critical component of national economic security, it has been a subject that has been discussed more than widely studied. Historically, it has been more concerned with the competitiveness of the industry rather than its security. Industrial security is a subset of national economic security within international trade theory and needs a comprehensive theoretical system. To address this debate, Li (2013) proposes five central industrial security ideas as a basis for exploration and theoretical methodology in his book:

- **Industrial Damage:** Evaluating the extent of damage to industries caused by import dumping in the importing country.

[10] https://www.who.int/data/global-health-estimates
[11] In addition to SDG 1, WHO also track some sub-sections of SDG 1 No Poverty, SDG 2 Zero Hunger, SDG 5 Gender Equality, SDG 6 Clean Water and Sanitation, SDG 7 Affordable Clean Energy, SDG 11 Sustainable Cities and Communities and SDG 17 Partnership for the Goals.

- **Industrial Control:** Managing foreign direct investment (FDI) through various factors and its impact on the host country's industrial security.
- **International Competitiveness of Industry:** Focused on an organisation's strategic behaviour and ability to innovate.
- **Industrial Safety Assessment and Warning:** Involves monitoring foreign economic hazards.
- **Industrial Protection:** Refers to a government's security measures and support policies for developing a specific industry at a specific phase of growth and time.

Li supports these theories through an empirical investigation of the security level of Chinese enterprises (Li, 2013, p. 371).

In another study by He et al. (2016), the high technology industry is considered a vital part of the national economy, and industrial security development is linked to national security. Their research expands on the industrial security indicator system for high-tech industries, analysing the state of industrial security in China's high-tech industry from 2005 to 2014. The findings indicate a steady improvement in China's high-tech industrial security over the years studied, with critical variables including market control of foreign-funded firms, labour quality, and foreign-funded enterprise investment control (He, Lin, & Hao, 2016, p. 657).

A study by Zhu et al. explores the impact of rising oil costs and China's economic policy unpredictability on the nonferrous metals industry. Using a time-varying parametric vector autoregressive model, the research integrates oil prices and economic policy uncertainty into a single framework, revealing insights into the long- and short-term consequences of oil price shocks and economic policy uncertainty during the global economic crisis (Zhu et al., 2021, p. 11).

Lastly, Jing et al (2013) employ 12 indicators based on international industrial competitiveness, domestic environment, and industrial reliance on foreign industry to assess the security level of the Chinese iron and steel sector. The

researchers use a nonlinear comprehensive evaluation model to aggregate the indicators (Jing et al., 2013).

2.5. STUDIES ON GOVERNANCE AND GDP

The study of Aixalá and Fabro (2007) employs a sample of 165 countries and instrumental variable methods to demonstrate that incorporating institutional indicators into a traditional growth model significantly enhances its explanatory power. Findings remain consistent across various estimation techniques, highlighting the robustness of the results. According to the study, individual and institutional dimensions, including the rule of law, control of corruption, and government effectiveness, show positive and highly significant associations with economic growth. The research underscores the fundamental role of institutional infrastructure in explaining income disparities among countries, surpassing the influence of conventional variables. Governments seeking to promote economic growth are advised to focus on institutional reform targeting these specific aspects of institutional quality (Aixalá & Fabro, 2007, p. 74).

Huynh and Jacho-Chávez (2009) explore the link between governance and economic growth using nonparametric methods by using World Bank governance indicators. Among the six measures analysed, only voice and accountability, political stability, and the rule of law significantly correlate with economic growth. The study introduces growth profile curves, revealing nonlinear relationships across indicators, regions, and time. The findings support that stability, rather than institutional quality, drives growth in poor countries. The study also emphasises caution in using parametric models and advocates for growth diagnostics to identify country-specific barriers to growth. However, it acknowledges the need to address causality, endogeneity, and the dynamics of governance measures in future studies (Huynh & Jacho-Chávez, 2009, p. 141).

Zhuang, Dios and Lagman-Martin (2010) inspect governance and institutional roles in promoting growth and inclusiveness in developing Asia. It reviews literature on their intrinsic and instrumental values, emphasising the importance of context-specific approaches. Analysing data from 1998 to 2008, the study finds

that developing Asian economies with above-average scores in government effectiveness, the rule of law and regulatory quality experienced faster growth. The study suggests improving governance in these dimensions as a key development strategy, acknowledging the need for better measurement methods. While specific governance dimensions show a significant relationship with growth, others do not (Zhuang et al., 2010, p. 45).

The study of AlBassam (2013) investigates how the global economic crisis affects the relationship between governance and economic growth. While asserting that financial injections alone are insufficient for recovery, the study finds that the crisis has not significantly altered the relationship between governance and growth. However, it highlights variations in this relationship based on nations' development levels during crises. High and very high-developed nations show significant post-crisis relationships, while medium-developed nations display none, and less-developed nations only exhibit a significant link with control of corruption. The study underscores the need for resilient long-term strategies for good governance, even in economic crises, and suggests potential research areas, including the influence of political systems during crises and specific regional or economic analyses (Albassam, 2013, p. 13).

The study of Emara and Jhonsa (2014), using two-stage least square regression on data from 197 countries in 2009, examines the inverse relationship between governance quality and per capita income. Results indicate a positive, statistically significant correlation between governance quality and income. Applied to 22 Middle Eastern and North African (MENA) countries, the study finds that despite weak governance, their estimated per capita income levels are relatively higher than the global average, often due to factors like natural resources or oil exports. The study emphasises the urgent need for MENA countries to enhance regulatory mechanisms, reduce corruption, strengthen the rule of law, ensure political stability, and increase government accountability. It also suggests that an exogenous increase in income, such as through multilateral aid, could contribute to improved governance (Emara & Jhonsa, 2014, p. 180).

Epaphra and Kombe explore the impact of governance indicators on economic growth in African countries, focusing on control of corruption, government effectiveness, political stability, regulatory quality, rule of law, and voice and accountability. Using a sample of 48 African countries from 1996 to 2016, the study employs GMM and panel data models. Results indicate that political stability significantly influences economic growth. The study suggests that enhancing the quality of institutions, including political stability, rule of law, democracy, and accountability, is crucial for economic growth in Africa. It emphasises the need for a comprehensive policy approach, addressing institutional factors and structural elements like trade liberalisation, increased investment, and human capital development for sustainable economic growth in the studied region. The results underscore the importance of tackling political instability, corruption, and overall governance to improve Africa's economic performance (Epaphra & Kombe, 2017, p. 586).

The study of Salawu et al. (2018) assesses the impact of governance on economic growth in Sub-Saharan Africa, focusing on Nigeria, South Africa, and Ghana (1996-2015). The findings of the study indicate that Ghana and South Africa have better governance than Nigeria. Positive governance effects on economic growth are observed in South Africa and Ghana, while Nigeria experiences a negative impact. Specific indicators show that political stability and control of corruption positively influence growth in Ghana and South Africa. In contrast, voice, accountability, and control of corruption negatively affect Nigeria's economic growth. The study recommends promoting freedom of speech, enhancing accountability, ensuring political stability, and controlling corruption to improve governance and stimulate economic growth in the region. Despite Nigeria's significant GDP contribution, poor governance hampers its growth compared to South Africa and Ghana. The study emphasises the need for Sub-Saharan African countries, including Nigeria, to prioritise citizen rights, anti-corruption measures, and a favourable political environment for sustained economic growth (Salawu et al., 2018).

Appiah, Li and Frowne (2020) examine the relationship between financial development, institutional quality, and economic growth in the ECOWAS region from 1996 to 2017. Using the two-step system GMM estimators, the findings indicate that financial development does not significantly and positively impact economic growth. Control of corruption is found to reduce growth, while regulatory quality increases growth. The study highlights the crucial role of good institutions in reducing political turmoil, a key determinant of growth and investment. The results emphasise the need for ECOWAS countries to enhance their institutional quality framework to promote economic growth (Appiah et al., 2020, p. 14).

Nedi´c et al. (2020) analyse the impact of institutional reform policies and quality on economic growth in five Western Balkan countries (Albania, Bosnia and Herzegovina, North Macedonia, Montenegro and Serbia) from 2006 to 2016. The study introduces a unique model to quantify key institutional indicators' influence on these countries' economic growth. Government effectiveness and regulatory quality have the most significant positive impact, followed by control of corruption and the rule of law. The findings suggest that implementing institutional change policies could positively affect long-term economic growth. The study emphasises the importance of improving public sector efficiency, enhancing the regulatory framework, and combating corruption to foster economic growth in countries of Western Balkan (Nedi´c et al., 2020, p. 19).

Radulović (2020) studies the impact of institutional quality on economic growth in Southeastern Europe (SEE) from 1996 to 2017, comparing EU and non-EU countries. Utilising the World Governance Indicators (WGI) and GDP growth rate, the research uses a panel ARDL approach. The findings indicate a long-term relationship between economic growth and institutional quality in EU countries, with all six governance dimensions being significant. In non-EU countries, only specific dimensions, such as government effectiveness, political stability, regulatory quality, and voice and accountability, show significance. The research underlines the critical role of institutional quality for economic growth in SEE countries, highlighting challenges non-EU countries must address before EU

accession, mainly focusing on controlling corruption. The research underscores the importance of institutional quality for policymakers aiming to foster economic growth in SEE countries (Radulović, 2020, p. 178).

Mohammed and Ekşi (2021) investigate the link between governance and economic development in emerging economies, using MSCI countries from 2002 to 2018. Despite prior literature emphasising the positive impact of governance on growth, the research finds no significant correlation in the examined countries. It suggests the need for self-improvement in governance, especially considering the impact of the 2008/2009 financial crisis on economic growth. The study recommends that emerging market governments prioritise governance, exercise control over financial institutions, and invest in human capital for sustained growth. However, the research acknowledges limitations related to sample and data sets (Almohammed & Ekşi, 2021, p. 49).

Bah et al. (2021) explore the impact of institutional quality on exports in sub-Saharan African countries (1996-2019) using the GMM approach. The analysis includes six governance indicators and reveals that overall exports and services benefit from the positive effects of these indicators. However, the influence varies across export components. Political stability, voice and accountability, control of corruption, and rule of law positively affect goods exports, while only voice and accountability significantly influence primary commodity exports. The findings suggest a need for sub-Saharan African countries to prioritise strengthening political governance and improving the commercial environment, emphasising political institutions, democratic principles, and a corruption-free environment to enhance trade and private investment confidence (Bah et al., 2021, p. 11).

All the studies discussed above, examining the complex relationship between WGI and economic growth, are summarised in Table 2, offering a holistic overview of the diverse perspectives and findings within the literature.

Table 2 Literature Review on WGI and GDP Studies

Year	Researcher(s)	Country-Period	Methodology	The Effect on GDP
2007	Aixalá and Gema Fabro	1996 - 2000 165 Countries	OLS, 2SLS and GMM	Significant Positive
2009	Huynh and Jacho-Chávez	1996 - 2006 125 Countries	OLS, Random-effects and Fixed-effects	Voice and accountability, significantly negative
2010	Zhuang et al.	1998- 2008 Asian Counties	Simple regression	Significant Positive
2013	AlBassam	2006 to 2011 215 Countries	GMM	Significant Positive
2014	Emara and Jhonsa	2009 MENA Countries	OLS - 2SLS	Significant Positive
2017	Epaphra and Kombe	1996-2016 48 Countries	GMM	Significant Positive
2018	Salawu et a.l	1996-2015 Sub-Saharan Countries	PCA, OLS and GMM	Significant positive effect on some countries and negative effect on some countries
2020	Appiah, Li and Frowne	1996-2017 15 Emerging economies within the ECOWAS	Two-step SGMM	Regulatory quality positive control of corruption negative
2020	Nedi´c et al.	2006-2016 WB Countries	Panel data multiple linear regression	Other WGIs positive Political Stability and Voice and Accountability negative
2020	Radulović	1996–2017 South-East Europe	ARDL	Other WGIs positive Voice and Accountability negative
2021	Almohammed and Ekşi	2002-2018 MSCI Countries	PCA and GMM	No significant relationship
2021	Bah et al.	1996–2019 Sub-Saharan Countries	SGMM	Significant Positive

Source: Author’s preparation.

The diverse array of studies examining the relationship between GDP and institutional quality presents a nuanced perspective on the complex interplay of governance factors and economic growth. Aixalá and Fabro's (2007) research underscores the importance of specific institutional dimensions, such as the rule of law, control of corruption and government effectiveness, showing positive correlations with economic growth. In contrast, Huynh and Jacho-Chávez (2009) argue for the significance of stability over institutional quality, challenging the conventional belief by showcasing that only specific indicators, including voice

and accountability, political stability, and the rule of law, exhibit a meaningful relationship with growth.

Zhuang, Dios, and Lagman-Martin's (2010) study on developing Asian economies emphasises context-specific approaches, acknowledging the variability in the effect of different governance dimensions on growth. This complexity is further highlighted by AlBassam's (2013) examination of the economic crisis's influence on the governance-growth relationship, revealing variations based on nations' development levels during crises.

The inverse relationship between governance quality and income, as studied by Emara and Jhonsa (2014), introduces another layer of complexity, suggesting that despite weak governance, MENA countries often exhibit higher per capita income levels driven by natural resources. Epaphra and Kombe's (2017) focus on Africa amplifies the importance of political stability and a comprehensive policy approach, intertwining institutional factors with structural elements for sustained economic growth.

Salawu et al. (2018) introduce regional specificity into the discussion, highlighting governance variations in Sub-Saharan Africa and their differential impact on economic growth in Nigeria, Ghana and South Africa. Appiah, Li, and Frowne (2020) provide insights into the ECOWAS region, underscoring the contrasting effects of financial development and different dimensions of institutional quality on economic growth.

Nedić et al. (2020) and Radulović (2020) contribute by offering regional perspectives for Western Balkan countries and Southeastern Europe, respectively. While Nedić et al. highlight the positive impact of critical institutional indicators on economic growth, Radulović's findings suggest variations in the significance of governance dimensions between EU and non-EU countries in Southeastern Europe.

However, Almohammed and Ekşi's (2021) study on emerging economies challenges the consensus by finding no significant correlation between

governance and economic development. The limitations associated with sample and data sets are acknowledged, emphasising the need for further self-improvement in governance to facilitate sustained growth.

Finally, Bah et al.'s (2021) exploration of institutional quality's impact on exports in Sub-Saharan African countries offers a unique perspective by delineating the differential influence of governance indicators on goods and primary commodity exports, underlining the need for strengthened political governance and improved business environments.

In summary, the discussions across these studies reveal a complex and multifaceted relationship between GDP and institutional quality, with variations arising from regional contexts, different governance dimensions, and the specificities of economic indicators under consideration. The discrepancies observed underscore the importance of nuanced, context-specific analyses when formulating policies to promote economic growth through institutional reforms.

CHAPTER 3:

RESEARCH DESIGN AND RESULTS

This chapter will explain the current study's method, the data's content, where it is obtained, what years it covers, and the results.

3.1. DATA

Understanding economic growth and stability dynamics requires a robust and comprehensive dataset. This sub-chapter delves into the core elements of the data utilised in this study, elucidating their content, sources, temporal coverage, and analytical implications. The primary focus of this research lies in examining the relationship between institutional quality, as gauged by the WGI, and economic growth, measured by Real GDP at constant 2017 national prices. Additionally, the study incorporates capital and labour as control variables to account for their influence on economic outcomes. Notably, the dataset encompasses diverse countries across three RSCs comprising 51 countries. Statistical data from 2006 to 2019 provide a comprehensive temporal perspective, allowing for the analysis of long-term trends and dynamics in the relationship between governance quality and economic performance. Moreover, including dummy variables for the 2008 financial crisis period captures its potential impact on the relationship under investigation. This sub-chapter provides detailed information about the data used, setting the stage for analysing how governance quality affects economic performance in RSCs.

3.1.1. GDP: The dependent variable for this study is the Real GDP at constant 2017 national prices. Real GDP is a fundamental indicator of a country's economic performance, accounting for inflation and providing a more accurate reflection of economic growth over time. The Real GDP data utilised in this study are obtained from the Penn World Table (PWT). This widely recognised and comprehensive dataset not only provides consistent and comparable measures of economic output across countries and periods but also instils confidence in the reliability of our findings.

GDP provides a comprehensive measure of economic output within a country, encompassing the total value of goods and services produced over a specific period, which makes it a convenient and widely used indicator for assessing overall economic activity and growth.

GDP allows for comparisons across countries over time, providing insights into relative economic performance and growth trends. This comparability makes it valuable for benchmarking and assessing changes in economic security on a national and global scale.

Policymakers often use GDP to gauge the effectiveness of economic policies and interventions. It serves as a critical metric for evaluating the impact of government actions on economic growth, employment, and living standards.

On the other hand, GDP focuses solely on economic output and does not capture other dimensions of individual economic security, such as income distribution, inequality, or access to essential services like healthcare and education. This narrow focus may overlook important aspects of well-being and security for individuals and communities.

GDP does not directly measure individuals' quality of life or subjective well-being. At the individual level, economic security encompasses not only material wealth but also health, safety, social cohesion, and environmental sustainability, which are not fully captured by GDP alone.

GDP growth can sometimes come at the expense of environmental degradation and resource depletion. GDP growth does not guarantee equitable distribution of wealth and opportunities within society. Rising GDP may disproportionately benefit specific population segments, widening income disparities and undermining overall economic security.

In summary, while GDP is valuable for assessing economic growth and overall economic activity, it has limitations when comprehensively explaining economic security. Researchers interested in understanding economic security need to complement GDP with other indicators that capture a broader range of

dimensions, including income distribution, social inclusion, environmental sustainability, and subjective well-being.

3.1.2. Worldwide Governance Indicators: Since 1996, the WGI has been measuring six elements of governance:

- Voice and Accountability: It evaluates the level to which citizens can engage in selecting their government and enjoy freedom of expression. In a country with a high voice and accountability, citizens actively participate in democratic processes, freely express their opinions through media and public forums and can influence government decisions. Elections are fair, and there is a vibrant civil society.
- Political Stability and Absence of Violence/Terrorism: It gauges perceptions regarding the likelihood of political instability and violence, encompassing terrorism. Peaceful transitions of power characterise a nation with solid political stability and low violence, minimal incidents of terrorism, and a reliable legal and security framework. This creates an environment conducive to economic and social development.
- Government Effectiveness: It scrutinises the quality of public services, the competence of the civil service, and the degree of the government's autonomy from political pressures. Public services such as education, healthcare, and infrastructure are efficiently provided in a country with high government effectiveness. The civil service is competent, and the government can implement policies independently without undue political pressure.
- Regulatory Quality: It assesses the government's capability to devise and implement effective policies and regulations fostering private sector development. An example of good regulatory quality is a government forming and enforcing business-friendly regulations. This includes transparent and fair processes for obtaining permits, ensuring a level playing field for businesses, and fostering an environment where the private sector can thrive.

- Rule of Law: It measures the degree to which citizens trust and adhere to societal rules, including the quality of contract enforcement, property rights, law enforcement, and the judiciary. In a society with a strong rule of law, citizens have confidence in the legal system. Contracts are enforceable, property rights are protected, law enforcement is fair, and the judiciary operates independently, ensuring everyone is equal before the law.
- Control of Corruption: It examines the perceived extent of corruption within the public sector. A country with adequate control of corruption has robust anti-corruption measures in place. Public officials are held accountable for their actions, there is transparency in government transactions, and citizens perceive low levels of corruption in public institutions. Independent anti-corruption agencies actively investigate and prosecute corrupt practices.

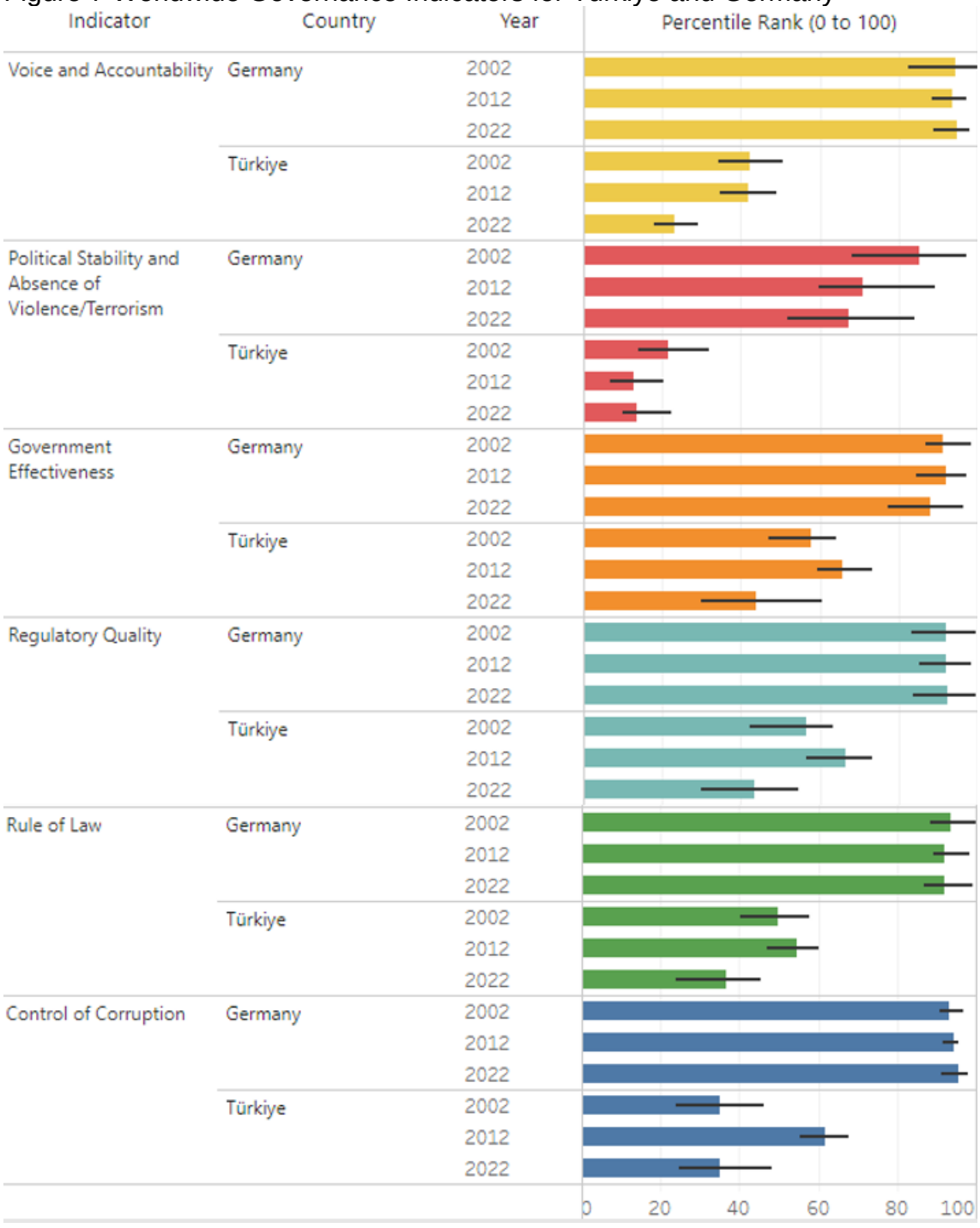
There are multiple connections between these six governance characteristics. The aggregate measures are based on hundreds of distinct underlying variables from various available data sources. The data reflect the perspectives on the governance of survey respondents and public, commercial, and NGO sector experts worldwide. In addition, the WGI specifically gives margins of error with each country's estimate. These represent the inherent difficulty in assessing governance with any data. Even after accounting for these margins of error, the WGI allows for meaningful cross-country and time comparisons (Kaufmann et al., 2010, p. 1).

Aggregate WGI is measured in two ways: in the governance indicator's normalised values, which range from roughly 2.5 to 2.5, and in percentile ranking, which ranges from 0 (lowest) to 100 (maximum) across all countries worldwide.

In this research, the WGIs are incorporated as an independent variable in the model. WGI, a composite measure reflecting the quality of governance across various dimensions, is a crucial predictor within the analytical framework. This choice is driven by the need to assess how governance quality affects and

interacts with other variables in the model. The subsequent research sections will explain the model's structure, including principal component analysis of WGI as an independent variable and elucidating its relationships with the specified dependent variable.

Figure 7 Worldwide Governance Indicators for Türkiye and Germany



Source: WGI (www.govindicators.org)

Figure 7 presents a comparative analysis of six indicators from the WGI for the years 2002, 2012, and 2022, focusing on Türkiye and Germany. The carefully chosen time points and countries aim to provide an illustrative overview of the evolution of governance indicators over a two-decade span. The six indicators under consideration shed light on various aspects of governance, offering insights into factors such as the rule of law, control of corruption, government effectiveness, and regulatory quality. By comparing the WGI scores for Türkiye and Germany across these pivotal years, Figure 7 allows a nuanced examination of how these two countries have navigated and potentially diverged in their governance trajectories over time.

3.1.3. Control Variables: The capital variable is measured in constant dollars, representing the aggregate capital stock in the economy. This variable includes physical capital assets like machinery and infrastructure. The measurement in constant dollars adjusts for inflation, providing a consistent value over time.

The labour variable measures total employment in the economy. It represents the number of labour resources engaged in production activities. Using total employment captures the overall workforce that contributes to economic output.

These control variables are employed in the model to understand the relationship between WGI and GDP. By including capital and labour as controls, the study aims to isolate the impact of governance quality on GDP, accounting for the influence of capital and labour in the economic production process. This approach enhances the precision of analysis, allowing for a more nuanced exploration of the relationship between governance indicators and economic prosperity.

3.1.4. Dummy Variables: Year dummy variables are introduced to account for potential time-specific effects that may influence the dependent variable (GDP). A separate dummy variable represents each year in the dataset. A positive or negative coefficient for these dummy variables indicates how the respective year impacts GDP relative to a reference year.

The 2008 Financial Crisis dummy variable is a binary variable designed to assess the impact of the global financial crisis on GDP. This representation takes the

value of 1 for observations corresponding to the years during and after the financial crisis (post-2008), while years before the financial crisis are coded as 0. This binary coding allows the model to distinguish the financial crisis period and evaluate its specific influence on GDP compared to the years preceding it. A positive or negative coefficient for this dummy variable indicates how GDP was affected during the 2008 Financial Crisis compared to non-crisis years. A significant coefficient suggests a distinct effect on economic output during the crisis period.

These dummy variables enhance the robustness of the model by capturing time-specific or event-specific variations in GDP that may not be explained by the included independent variables (such as WGI, capital, and labour). They allow us to assess whether specific years or the occurrence of the financial crisis significantly influenced the relationship between WGI and GDP, providing a more nuanced understanding of the economic dynamics under consideration.

3.2. VARIABLES

The variables used in the study include data from 51 countries between 2006 and 2019. All the variables used in the study are summarised in Table 3.

Table 3 Summary of Descriptive Statics

Variable	Sym	Mean	Std.Dv.	Min	Max
The Logarithm of GDP	lnGDP	12.52	1.39	9.47	15.28
Control of Corruption	wcc	62.90	27.51	1.46	100
Government Effectiveness	wge	67.12	24.21	0.98	100
Pol. Stability & Absence of Violence/Ter.	wps	55.10	28.25	0	100
Regulatory Quality	wrq	68.15	25.99	2.84	100
Rule of Law	wrl	64.18	27.63	0.96	100
Voice and Accountability	wva	60.20	32.12	0.95	100
Labour (mil)	lab	9.38	12.82	0.16	72.16
Capital (mil)	cap	2864761	4321420	47046	19606062

Source: Author's calculation[12]

Table 3 represents the summary statistics of variables. The standard deviation, minimum and maximum values, and mean are used to quantify central tendency,

[12] Calculations are based on World Bank Data and Penn World Table, 2024.

whereas the minimum and maximum values are used to measure central distribution. 714 observations make up the observed sample.

Correlation Matrix presents the pairwise correlations among the dependent and indexes of WGI, aiding in identifying potential multicollinearity and interdependencies within the dataset. The correlation matrix of dependent and independent variables is given in Table 4.

Table 4 Correlation Matrix of Dependent and Independent Variables

	lnGDP	**wcc**	**wge**	**wps**	**wrq**	**wrl**	**wva**
lnGDP	1						
wcc	0.0641	1					
wge	0.0808	0.9447	1				
wps	-0.0932	0.7679	0.7597	1			
wrq	-0.0207	0.8879	0.9208	0.7382	1		
wrl	0.0463	0.9601	0.9585	0.7805	0.9424	1	
wva	0.0221	0.8224	0.8333	0.7491	0.8548	0.8657	1

Source: Author's calculation

The Variance Inflation Factor (VIF) is a statistical measure used in regression analysis to identify multicollinearity among predictor variables. Multicollinearity arises when independent variables in a regression model are highly correlated, leading to inflated standard errors and unreliable coefficient estimates.

VIF quantifies the degree to which the variance of an estimated regression coefficient is inflated due to multicollinearity. It measures how much the variance of the coefficient increases because of correlation with other predictor variables in the model. A high VIF value suggests a strong correlation between a predictor variable and the others, indicating potential multicollinearity issues. The VIF result of the independent variables is given in Table 5.

Table 5 Variance Inflation Factor of WGIs

	VIF	1/VIF
wrl	29.22	0.03
wcc	15.25	0.07
wge	14.53	0.07
wrq	10.40	0.10
wva	4.49	0.22
wps	2.75	0.36
Mean VIF	12.77	.

Source: Author's calculation

This study uses Principal Component Analysis (PCA) to tackle multicollinearity issues detected through VIF analysis and the correlation matrix of dependent and independent variables. Multicollinearity, where predictor variables in a regression model are highly correlated, can distort results. VIF measures the extent of multicollinearity, while the correlation matrix reveals pairwise relationships between variables. By applying PCA, the study aims to reduce the dimensionality of the dataset of WGIs and enhance the stability of the regression model, enabling a more robust analysis of the relationship between variables.

PCA is a robust statistical technique widely employed in various domains to reduce dimensionality in complex datasets. Its application to the WGI proves instrumental in distilling meaningful insights from many governance-related variables, offering a comprehensive view of global governance trends.

At its core, PCA excels at transforming high-dimensional datasets into a more manageable and interpretable form, retaining the essential patterns and structures within the original data. This technique identifies and extracts the input variables' principal components and linear combinations. In the context of WGI, these variables may encompass diverse aspects of governance, such as political stability, rule of law, government effectiveness, regulatory quality, and control of corruption.

The WGIs capture the multifaceted nature of governance across countries. However, the transparent volume of variables can challenge analysis and interpretation. PCA comes to the forefront as an invaluable tool in this scenario. By condensing the information in various governance indicators into a reduced set of principal components, PCA facilitates a more comprehensive understanding of the overarching trends, allowing policymakers, researchers, and analysts to focus on the most effective aspects of governance.

PCA offers crucial advantages in the analysis of WGIs. First, it effectively reduces the dimensionality of the complex governance dataset, providing a concise yet comprehensive overview. This dimensionality reduction aids in pattern recognition, revealing critical structures and trends many individual indicators may obscure. The interpretability of the transformed principal components facilitates a clearer understanding of governance dynamics, enabling more informed decision-making. Additionally, PCA addresses collinearity issues among indicators, ensuring stability in the extracted components and enhancing the reliability of the analysis. Overall, applying PCA to WGI optimises the extraction of meaningful insights, enabling a tool for policymakers and researchers alike. Comprehensive PCA calculations are given in Appendix 2.

3.3. METHODOLOGY

Three methods exist for Panel Data Regression Estimation: pooled OLS, fixed, and random effects. The pooled OLS method in cross-sectional units has no heterogeneity or individuality. In other words, all observations are pooled together for regression analysis by applying the OLS technique to panel data.

Fixed Effects (FE) and Random Effects (RE) models are commonly used techniques to address the issue of unobserved heterogeneity in panel data. The FE model accounts for time-invariant individual or group-specific characteristics not captured by observed variables. It includes a set of dummy variables representing each individual or group in the panel, thereby controlling for individual-specific effects. The model essentially subtracts out the individual-specific effects, allowing for the estimation of time-varying effects.

FE models effectively control for time-invariant characteristics that may correlate with independent and dependent variables. FE estimators are consistent even if there is a correlation between the time-invariant individual effects and the independent variables. It addresses endogeneity issues that might arise due to unobserved heterogeneity. FE models assume that unobserved variables are time-invariant. If this assumption is not satisfied, it may lead to omitted variable bias. It cannot estimate the impact of variables that do not vary over time within entities, as these variables are absorbed by the fixed effects.

The RE model accepts that individual effects are uncorrelated with the independent variables, making them random. It combines both within-group and between-group variations, allowing for the estimation of time-varying effects.

RE models can be more efficient when the individual-specific effects are truly random, as they utilise both within-group and between-group variations. It can estimate the effects of time-invariant variables as they are not absorbed by fixed effects. RE models assume that the individual-specific effects are uncorrelated with the independent variables. If this assumption is violated, it can lead to biased estimates. In the presence of endogeneity, RE models may yield inconsistent estimates.

The choice between FE and RE models often depends on the structure of the data and the underlying assumptions. If unobserved individual characteristics are correlated with the independent variables, a FE model might be more appropriate. However, if individual-specific effects are truly random and uncorrelated with the independent variables, a RE model could be more efficient.

A model can be selected in advance or using tests such as the Hausman, Lagrange Multiplier, and F tests for individual effects.

The main problem that is tried to be put forward in the panel data analysis part of this study is to find an answer to how governance affects the country's GDP. Therefore, the main hypotheses can be established as follows.

H_0: Governance affects GDP value significantly within a specified region.

H_a: Governance does not affect GDP value insignificantly within a specified region.

The econometric model formula prepared to seek answers to these hypotheses is given below.

$$lnGDP_{it} = \beta_0 + \beta_1 INS_{it} + \beta_2 CAP_{it} + \beta_3 LAB_{it} + \beta_4 YEAR_{it} + \beta_5 FIN_{it} + \mu_{it} + e_{it}$$

t = 1 … 14 (2006-2019)

In the model, μ_{it} represent country-specific effects. The independent variables in the study include institutional quality (INS), capital (CAP), labour (LAB), year, and the 2008 financial crisis (FIN). Also, e_{it} represents the error term, whereas $\beta_0, \beta_1, \ldots, \beta_5$ represent the parameters to be estimated.

3.4 EMPIRICAL RESULTS

3.4.1. Regression Results for All Regions: Table 6 presents the estimation results for both the random effects and fixed effects models. In the random effects model, the coefficient of determination (R^2) is reported as 50.5%, indicating that approximately 50.5% of the change in the dependent variable is explained by the independent variables included in the model. The associated Chi-square value is 1691.10, indicating a statistically significant model fit.

In the random effects model, we observe that for every one-unit increase in institutional quality (INS), GDP is estimated to increase by about 11.5%. This effect is statistically significant, as indicated by the t-value associated with the coefficient.

Similarly, in the fixed effects model, the R^2 value is reported as 49%, suggesting that the independent variables explain approximately 49% of the change in the dependent variable when considering within-group variations. The F-value associated with the model is 104.74, indicating a statistically significant overall model fit.

In the fixed effects model, we find that for every one-unit increase in institutional quality (INS), GDP is estimated to increase by about 11.1%, consistent with the random effects model. This effect is also statistically significant.

Detailed results of each regression model are given in Appendix 3.

Table 6 Regression Results for All Regions

Random-effects GLS regression					**Fixed-effects (within) regression**			
lnGDP	**Coef.**	**t-value**	**p-value**	**Sig**	**Coef.**	**t-value**	**p-value**	**Sig**
ins	.11	6.78	0	***	.106	6.55	0	***
lab	.079	17.29	0	***	.078	16.60	0	***
cap	-6.31 e-08	-6.58	0	***	-6.91e-08	-7.16	0	***
2006	0	.	.		0	.	.	
2007	.041	3.10	.002	***	.042	3.21	.001	***
2008	.063	4.71	0	***	.065	4.89	0	***
2009	.039	2.88	.004	***	.04	3.06	.002	***
2010	.067	5.00	0	***	.069	5.22	0	***
2011	.095	7.03	0	***	.097	7.30	0	***
2012	.107	7.88	0	***	.11	8.19	0	***
2013	.124	9.09	0	***	.127	9.44	0	***
2014	.15	10.93	0	***	.154	11.33	0	***
2015	.176	12.72	0	***	.18	13.15	0	***
2016	.198	14.20	0	***	.203	14.67	0	***
2017	.222	15.73	0	***	.228	16.25	0	***
2018	.244	17.10	0	***	.25	17.64	0	***
2019	.262	18.03	0	***	.268	18.60	0	***
0	0	.	.		0	.	.	
1	0	.	.		0	.	.	
Constant	11.85	92.52	0	***	11.878	382.39	0	***

Source: Author's calculation

*** p<.01, ** p<.05, * p<.1

3.4.2. Regression Results for European RSC: The estimation results for the European RSC are provided in Table 7. In the random effects model, the coefficient of determination (R^2) is reported as 71.3%, indicating that

approximately 71.3% of the change in the dependent variable is explained by the independent variables considered in the model. The associated Chi-square value is 703.46, indicating a statistically significant model fit.

For every one-unit increase in institutional quality (INS), GDP is estimated to increase by about 14.3% in the random effects model. This relationship is statistically significant, as evidenced by the associated t-value.

Similarly, in the fixed effects model, the R^2 value remains 71.4%, indicating a consistent explanatory power compared to the random effects model. The F-value associated with the fixed effects model is reported as 44.30, suggesting a statistically significant overall model fit.

In the fixed effects model, for every one-unit increase in institutional quality (INS), GDP is estimated to increase by about 13.7%. This estimate is slightly lower compared to the random effects model but still reflects a significant positive relationship between institutional quality and GDP growth.

These findings suggest higher institutional quality is associated with increased GDP growth across European RSC. Further details on the estimation results are given in Table 7.

Table 7 Regression Results for European RSC

Random-effects GLS regression					Fixed-effects (within) regression			
lnGDP	**Coef.**	**t-value**	**p-value**	**Sig**	**Coef.**	**t-value**	**p-value**	**Sig**
ins	.134	5.03	0	***	.13	4.99	0	***
lab	.047	6.38	0	***	.04	5.58	0	***
cap	-4.38 e-09	-0.35	.729		-5.63e-09	-0.45	.65	
2006	0	.	.		0	.	.	
2007	.032	2.08	.038	**	.034	2.24	.026	**
2008	.046	2.90	.004	***	.048	3.14	.002	***
2009	.012	0.73	.467		.013	0.84	.4	
2010	.032	2.03	.042	**	.034	2.18	.03	**
2011	.049	3.06	.002	***	.051	3.27	.001	***
2012	.047	2.95	.003	***	.049	3.16	.002	***
2013	.055	3.38	.001	***	.057	3.61	0	***
2014	.077	4.71	0	***	.079	5.03	0	***
2015	.106	6.47	0	***	.11	6.88	0	***
2016	.127	7.66	0	***	.131	8.15	0	***
2017	.152	9.11	0	***	.157	9.71	0	***
2018	.173	10.22	0	***	.179	10.91	0	***
2019	.191	11.01	0	***	.197	11.74	0	***
0	0	.	.		0	.	.	
1	0	.	.		0	.	.	
Constant	12.11	78.65	0	***	12.16	312.41	0	***

Source: Author's calculation

*** p<.01, ** p<.05, * p<.1

3.4.3. Regression Results for Middle-East RSC: The estimation results for Middle-East RSC are presented in Table 8. In the random effects model, the coefficient of determination (R^2) is reported as 7.4%, indicating that approximately 7.4% of the change in the dependent variable is explained by the independent variables considered in the model. The associated Chi-square value is 1017.95.

In the random effects model, for every one-unit increase in institutional quality (INS), GDP is estimated to increase by about 6.7%. This relationship is statistically significant, as indicated by the associated t-value.

Similarly, in the fixed effects model, the R^2 value remains 1%. The F-value associated with the fixed effects model is reported as 73.12.

In the fixed effects model, for every one-unit increase in institutional quality (INS), GDP is estimated to increase by about 6.8%. This estimate is slightly higher than the random effects model, suggesting a stronger positive relationship between institutional quality and GDP growth within the context of Middle-East RSC.

These findings suggest higher institutional quality is associated with increased GDP growth within the Middle-East RSC. The slight difference in the magnitude of the effect between the random effects and fixed effects models may reflect specific contextual factors within the region. Further details on the estimation results can be seen in Table 8.

Table 8 Regression Results for Middle-East RSC

Random-effects GLS regression					**Fixed-effects (within) regression**			
lnGDP	**Coef.**	**t-value**	**p-value**	**Sig**	**Coef.**	**t-value**	**p-value**	**Sig**
ins	.066	2.66	.008	***	.066	2.86	.005	***
lab	.025	2.83	.005	***	.018	2.12	.036	**
cap	-6.07 e-08	-3.53	0	***	-5.97e-08	-3.67	0	***
2006	0	.	.		0	.	.	
2007	.049	2.01	.044	**	.05	2.22	.028	**
2008	.099	4.07	0	***	.102	4.47	0	***
2009	.128	5.22	0	***	.132	5.77	0	***
2010	.176	7.12	0	***	.182	7.84	0	***
2011	.222	8.80	0	***	.228	9.70	0	***
2012	.258	10.06	0	***	.266	11.09	0	***
2013	.296	11.23	0	***	.305	12.39	0	***
2014	.331	12.38	0	***	.341	13.63	0	***
2015	.365	13.35	0	***	.376	14.69	0	***
2016	.414	14.73	0	***	.428	16.20	0	***
2017	.436	15.19	0	***	.451	16.70	0	***
2018	.453	15.28	0	***	.468	16.81	0	***
2019	.459	15.09	0	***	.476	16.62	0	***
0	0	.	.		0	.	.	
1	0	.	.		0	.	.	
Constant	12.38	63.79	0	***	12.431	237.88	0	***

Source: Author's calculation

*** p<.01, ** p<.05, * p<.1

3.4.4. Regression Results for Post-Soviet RSC: The estimation results for Post-Soviet RSC are provided in Table 9. In the random effects model, the coefficient of determination (R^2) is reported as 73.9%, indicating that approximately 73.9% of the change in the dependent variable is explained by the independent variables considered in the model. The associated Chi-square value is 676.01, suggesting a statistically significant model fit.

In the random effects model, for every one-unit increase in institutional quality (INS), GDP is estimated to increase by about 8.2%. This relationship is statistically significant, as indicated by the associated t-value.

Similarly, in the fixed effects model, the R^2 value remains high at 73.3%, indicating consistent explanatory power compared to the random effects model. However, the F-value associated with the fixed effects model is reported as 43.33, suggesting a relatively lower overall model fit.

In the fixed effects model, for every one-unit increase in institutional quality (INS), GDP is estimated to increase by about 10.9%. This estimate is slightly higher compared to the random effects model, suggesting a slightly stronger positive relationship between institutional quality and GDP growth within the context of Post-Soviet RSC.

These findings suggest that higher institutional quality is associated with increased GDP growth within the Post-Soviet RSC. Further details on the estimation results can be seen in Table 9.

Table 9 Regression Results for Post-Soviet RSC

Random-effects GLS regression					Fixed-effects (within) regression			
lnGDP	**Coef.**	**t-value**	**p-value**	**Sig**	**Coef.**	**t-value**	**p-value**	**Sig**
ins	.079	2.08	.038	**	.104	2.76	.007	***
lab	.111	12.57	0	***	.115	12.86	0	***
cap	-1.33 e-07	-3.70	0	***	-1.13 e-07	-3.11	.002	***
2006	0	.	.		0	.	.	
2007	.065	2.33	.02	**	.061	2.25	.026	**
2008	.088	3.11	.002	***	.082	2.98	.004	***
2009	.035	1.21	.224		.029	1.05	.296	
2010	.06	2.11	.035	**	.054	1.95	.053	*
2011	.106	3.72	0	***	.099	3.58	.001	***
2012	.136	4.74	0	***	.127	4.57	0	***
2013	.165	5.76	0	***	.156	5.60	0	***
2014	.213	7.16	0	***	.203	7.00	0	***
2015	.229	7.72	0	***	.219	7.60	0	***
2016	.242	7.85	0	***	.23	7.64	0	***
2017	.276	8.53	0	***	.262	8.25	0	***
2018	.314	9.54	0	***	.299	9.23	0	***
2019	.352	10.16	0	***	.335	9.78	0	***
0	0	.	.		0	.	.	
1	0	.	.		0	.	.	
Constant	10.86	49.38	0	***	10.79	136.71	0	***

Source: Author's calculation

*** p<.01, ** p<.05, * p<.1

3.4.5. Test Results for Selection of Panel Data Estimation Technique: Selecting between a simple OLS regression and a random effects regression can be identified by the Breusch-Pagan Lagrange Multiplier post-estimation test. The LM test's null hypothesis is that there is either no panel effect—a significant difference across nations—or that the variances across countries are equal to zero. In this case, the significance of the Chi-square denotes the existence of panel effects (fixed or random). Test results for the Breusch-Pagan Lagrange

Multiplier are given in Table 10. The LM test results conclude that there is heteroscedasticity in the model.

Table 10 Test Results for Selection of Panel Data Estimation Technique

	All Countries	European RSC	Middle-East RSC	Post-Soviet RSC
Breusch-Pagan Lagrange Multiplier (LM), H0: No panel effect				
Chi Square	4534.99	2626.81	822.03	789.39
p-value > F	0.0000	0.0000	0.0000	0.0000
Hausman Test, H0: Difference in coefficients is not systematic				
Chi Square ()	20.43	29.21	20.45	11.29
p-value > Chi Sq.	0.0001	0.0000	0.0001	0.0103

Source: Author's calculation

The Hausman Test, the second post-estimation test, provides an opportunity for the user whether select a random or fixed effects model. Both methodologies' outcomes have been estimated before being tested in this instance. The test is significant, and H0 is rejected if the probability value of Chi-square is less than 0.05, suggesting that the fixed (systematic) effects model is a better fit. Test results for the Hausman test are shown in Table 10.

The micro panel data used in this study ($t = 14 < 20$) reduces the likelihood of the serial correlation test. The Wooldridge Test for Serial Correlation is used to ensure accuracy. In Table 11, statistics are different from expected, indicating that the null hypothesis is rejected (p-values 0.05 and 0.01) and there is a serial correlation among the residuals.

The modified Wald test is a statistical test that can assess whether there is group-wise heteroscedasticity in a linear regression model. Heteroscedasticity occurs when the variance of the error term is not constant across all observations and can lead to biased and inconsistent standard errors. If the p-value is small (typically less than 0.05), it indicates strong evidence to reject the null hypothesis. The results of the Modified Wald Test conclude that there is a group-wise heteroscedasticity in the model. In addition, the CD test strongly rejects the null

hypothesis of no cross-sectional dependence at a 1% significance level. Test results are displayed as follows:

Table 11 Test Results for Serial Correlation, Heteroscedasticity and Cross-Sectional Independence

	All Counties	**European RSC**	**Middle-East RSC**	**Post-Soviet RSC**
Wooldridge Test for Serial Correlation, H_0: No first-order serial correlation				
F(,)	493.653	483.523	105.964	219.101
p-value > F	0.0000	0.0000	0.0000	0.0000
Modified Wald Test for Group Wise Heteroscedasticity, H_0: $\sigma_i^2 = \sigma^2$ for all i				
χ^2( )	12099.56	10981.06	2579.53	50.82
p-value > χ^2	0.0000	0.0000	0.0000	0.0000
Pesaran's Test of Cross-Sectional Independence, H_0: Cross-sectional Independence				
Independence	-1.876	-2.134	-2.157	-2.665
Pr	0.0607	0.0329	0.0310	0.0077

Source: Author's calculation

3.4.6. Estimation Results of Each Region with Driscoll – Kraay Robust Standard Errors: The Wooldridge Test, the Modified Wald Test and Pesaran's Tests indicate regression with Driscoll and Kraay standard errors should be used. Estimation results are shown in Table 12.

Table 12 Estimation Results of Each Region with Driscoll – Kraay Robust Standard Errors

	All Countries		European RSC		Middle-East RSC		Post-Soviet RSC	
lnGDP	**Coef.**	**P>t**	**Coef.**	**P>t**	**Coef.**	**P>t**	**Coef.**	**P>t**
ins	0.106	0.000	0.130	0.024	0.066	0.000	0.104	0.054
lab	0.078	0.000	0.040	0.000	0.018	0.019	0.115	0.000
cap	-6.91e-08	0.000	-5.63e-09	0.410	-5.97e-08	0.005	-1.13e-07	0.024
2006	.	.	.	.	.	.	.	.
2007	0.042	0.000	0.034	0.000	0.050	0.000	0.061	0.000
2008	-0.203	0.000	-0.150	0.000	.	.	-0.253	0.000
2009	-0.228	0.000	-0.184	0.000	0.031	0.000	-0.306	0.000
2010	-0.199	0.000	-0.164	0.000	0.080	0.000	-0.281	0.000
2011	-0.171	0.000	-0.147	0.000	0.127	0.000	-0.236	0.000
2012	-0.158	0.000	-0.148	0.000	0.164	0.000	-0.207	0.000
2013	-0.141	0.000	-0.140	0.000	0.204	0.000	-0.178	0.000
2014	-0.114	0.000	-0.118	0.000	0.240	0.000	-0.132	0.000
2015	-0.088	0.000	-0.088	0.000	0.275	0.000	-0.115	0.000
2016	-0.065	0.000	-0.066	0.000	0.326	0.000	-0.104	0.000
2017	-0.040	0.000	-0.040	0.000	0.349	0.000	-0.073	0.000
2018	-0.018	0.000	-0.018	0.000	0.367	0.000	-0.036	0.000
2019	.	.	.	.	0.374	0.000	.	.
0								
1	.	.	.	.	.	.	.	.
Constant	0.268	0.000	0.197	0.000	0.102	0.000	0.335	0.000

Source: Author's calculation

*** p<.01, ** p<.05, * p<.1

Table 12 presents estimation results with Driscoll-Kraay standard errors for all countries and RSCs.

In the model encompassing all countries, the coefficient of determination (R^2) is reported as 72,1%, a significant figure that indicates approximately 72,1% of the

change in the dependent variable is explained by the independent variables included in the model. The high F-value of 1587.06 further underscores the robustness of the model, and the statistically significant relationship between GDP and institutional quality (INS) at the 0.01 level is a crucial finding. Specifically, GDP is estimated to increase by about 11.1% for every one-unit increase in institutional quality, a result that holds important implications for our understanding of economic growth.

For the European RSC model, the R^2 value is reported as 65.5%, suggesting that the independent variables explain approximately 65.5% of the change in the dependent variable. The F-value of 574.50 indicates a robust model fit, and the relationship between GDP and institutional quality is statistically significant. GDP is estimated to increase by about 13.7% for every one-unit increase in institutional quality.

In the Middle-East RSC model, the R^2 value is notably high at 90.2%, indicating a strong explaining ability of the independent variables. The associated F-value of 915.62 suggests a good overall model fit, and the relationship between GDP and institutional quality is statistically significant at the 0.01 level. Specifically, GDP is estimated to increase by about 6.8% for every one-unit increase in institutional quality.

In the Post-Soviet RSC model, the R^2 value is reported as 85.9%, indicating a moderate explaining ability of the independent variables. The F-value of 714.25 suggests a relatively good overall model fit, and the relationship between GDP and institutional quality is statistically significant at the 0.1 level. Specifically, for every one-unit increase in institutional quality, GDP is estimated to increase by about 10.9%.

These findings underscore the importance of considering regional context in our research. The varying degrees of explanatory power and statistical significance of the relationship between institutional quality and GDP growth across different RSCs are significant. It is crucial to note the implications of these results within

each region's unique economic and political landscapes, a factor that can significantly affect our understanding of this relationship.

Appendix 4 provides an additional analysis using a logarithmic-logarithmic regression model, where both dependent and independent variables are transformed using natural logarithms. While the main study employs a linear-logarithmic model due to some negative variables, this alternative model examines elasticities, showing how percentage changes in governance metrics relate to GDP changes. This approach offers a complementary perspective and validates the robustness of our primary results.

The results are consistent with several previous studies highlighting the significant impact of institutional quality and governance on economic growth and development. Aixalá and Fabro (2007) found a positive and highly significant coefficient for institutional quality, indicating its substantial effect on growth. Zhuang et al. (2010) demonstrated a solid and incontrovertible long-term association between governance, institutional quality, growth, and income levels. Emara and Jhonsa (2014) identified a positive and statistically significant causality from governance quality to per capita income, supporting the importance of effective governance mechanisms.

Furthermore, Nedić et al. (2020) emphasised the significant positive impact of specific quality indicators of institutions, particularly government effectiveness and regulatory quality, on economic growth. Other studies by Sen (2014), Alam et al. (2017), Siddiqui et al. (2009), Siyakiya (2017), and Kraipornsak (2018) also underscored the crucial role of good governance and institutional quality in fostering economic performance and income growth, further supporting the alignment of your findings with existing research in this issue.

CONCLUSION

With the book published by Barry Buzan in 1983, the existence of non-military subjects was recognised in security literature. Security Studies started to widen and deepen its content by introducing novel approaches to traditional ones. The debate between traditionalists and supporters of these new approaches persisted until the end of the Cold War. Novel approaches continued to gain ground after the end of the Cold War, and the effect of constructivism began to take place in the literature on security studies. Therefore, the context of the studies became wider by including new subjects. Therefore, the scope of the studies expanded by the inclusion of new subjects.

The Copenhagen School has contributed to the academic literature on securitisation/de-securitisation theory, RSC theory, and sectoral security approach in international security studies. The securitisation theory of the Copenhagen School is built on the theory of speech act, which is often used to analyse how political actors use language to construct and negotiate security issues. The examination of speech acts can provide valuable insights for researchers seeking to understand the dynamics of power and the efforts of various actors to influence the security agenda.

The concept of distance influences the formation of the RSC theory because dangers in these areas spread more quickly over short distances than long ones. There are three reasons why the RSC theory is practical. First, it sheds light on the appropriate degree of analysis for security studies; second, it can arrange empirical research; and third, theory-based scenarios may be produced based on recognised forms and alternatives of the RSC theory.

Another contribution of Copenhagen School is to enrich the international security agenda by integrating economic, political, environmental, social, and human security sectors into the discussion. Military security, in general, is concerned with the two-level interaction between governments' armed offensive and defensive strength and perceptions of their intentions. Political security concerns a state's

organisational stability, management system, and ideology that gives it legitimacy. Economic security comprises resources, funds, and markets required to keep welfare and governmental power manageable. The preservation of traditional linguistic patterns, culture, language, national identity, and customs is crucial for the well-being of society and contributes to its continued growth and stability. Environmental security includes the preservation of the local and global biospheres, which serve as the foundation for all other humanitarian endeavours. It should be emphasised that these five factors are interrelated. Each sector denotes a point of attention and importance within the theory and is intimately linked. With the security sector approach, Copenhagen School has significantly expanded security concept by adding concepts like securitisation-desecuritisation and RSC theory to security studies.

Economic security for states involves securing the financial and market resources essential for their continued existence and maintaining the desired level of well-being. Economic security ensures adequate agricultural production to sustain the population and raw material production to support industries. Additionally, economic security necessitates considering the state's internal structure, where adopting advanced procedures from the international system becomes crucial for survival. Buzan's approach to economic security is emphasised in the thesis, highlighting his broader conceptualisation that integrates economic factors into national security frameworks. The thesis adopts Buzan's perspective to analyse how economic security is constructed and addressed within a regional context.

The thesis measures the impact of governance on a country's GDP using panel data estimation models. It focuses on three RSCs, encompassing a total of 51 countries. By analysing statistical data from 2006 to 2019, the study aims to uncover how variations in governance influence economic performance within these regions. Using panel data allows for a comprehensive analysis over time and across different countries, providing robust insights into the governance-GDP relationship. Including multiple RSCs enables a comparative perspective, highlighting regional differences and commonalities in the governance-economic performance nexus.

The established panel is primarily tested by post-estimation tests such as the Breusch-Pagan Lagrange Multiplier and the Hausman tests. Consecutively, models are tested using Wooldridge, Modified Wald, and Pesaran's test. Three assumptions are not met in the final stage of model estimation: heteroscedasticity, autocorrelation, and serial correlation. The final model is obtained by performing it with the Driscoll-Kraay Estimator, which can produce robust standard errors.

In the model encompassing all countries, the substantial coefficient of determination (R^2) suggests that institutional quality plays a significant role in explaining the change in GDP. Supported by a robust F-value, the observed relationship between GDP and institutional quality underscores the pivotal role of institutions in driving economic growth. Furthermore, the changes occur when examining specific regional contexts. For European RSC, the model maintains a strong explaining ability. Institutional quality continues to exert a substantial positive impact on GDP in the European RSC.

In the Middle-East RSC, the model exhibits a remarkably high R^2, emphasising the strong influence of institutional quality on economic growth. The statistically significant relationship underscores the importance of institutions in fostering economic development.

Similarly, the Post-Soviet RSC model demonstrates moderate explaining ability, with a significant relationship between GDP and institutional quality. This highlights the considerable impact of institutions on GDP growth within this region. While the strength of this relationship varies slightly across regions, the overall trend indicates that higher institutional quality is associated with increased economic output. These findings underscore the necessity of considering regional contexts in understanding the relationship between institutional quality and economic growth. Acknowledging the diverse economic and political landscapes across regions is essential for developing tailored policy interventions to promote sustainable economic development.

The European RSC comprises countries with generally high levels of institutional development. The well-established governance structures and regulatory frameworks in these nations contribute to an advantageous environment for economic growth. Even with already high institutional quality, the effect on GDP remains significant, indicating the enduring importance of institutions in driving economic performance.

Following the fall of the Berlin Wall, countries within the Post-Soviet RSC underwent significant political and economic transformations. The transition from centrally planned to market-oriented economies led to varying degrees of regional institutional development. In this context, the effects of institutional quality on GDP were relatively higher compared to Middle-East RSC, reflecting the crucial role of institutions in shaping economic outcomes during transition periods.

The Middle-East RSC encompasses countries with diverse political and economic landscapes. While some nations in this region have progressed in institutional reforms and governance improvements, others continue facing political instability and governance deficits. Consequently, the impact of institutional quality on GDP may vary across countries within this region, with factors such as resource dependency and geopolitical tensions influencing economic performance differently.

These results are in line with Buzan's (2015) view that "the logical security strategies are to ensure continuity of supply" (Buzan, 2015). On the other hand, the results obtained by comparing the income groups and other regions without limitation with these selected RSCs will enrich the literature in this respect. In subsequent studies, studies covering a more extended period and comparing with various regions can be done. Studies in this area will deepen our knowledge of Barry Buzan's economic security.

The findings demonstrate a significant relationship between institutional quality and economic security. In this context, policymakers should focus on regulations that positively impact economic security in the analysed regions.

Institutions need gradual improvement to achieve greater economic security, and the introduction of institutional reforms is necessary. Institutional reform poses a challenging and long-term process. The implementation of policies in the field of economic security should be grounded in enhancing institutional capacity, considering the unique combinations of institutions suitable for countries in different regions. One of the study's most crucial findings is that different institutional indicators interact diversely with economic security performance in each region.

Empirical findings from the study support the hypothesis that each country should formulate its economic development strategy, considering the region’s social, economic and geopolitical features in which it is located. This approach is vital for tailoring policies to each country's specific needs and circumstances, contributing to economic security.

BIBLIOGRAPHY

Aitken, T., Chin, K. L., Liew, D., & Ofori-Asenso, R. (2020). Rethinking Pandemic Preparation: Global Health Security Index (GHSI Is Predictive of Covid-19 Burden, But in the Opposite Direction. Journal of Infection, 81(2), pp. 318–356. https://doi.org/10.1016/j.jinf.2020.05.001

Alam, M., Kitenge, E., and Bedane, B. (2017). Government Effectiveness and Economic Growth. *Economics Bulletin, 37*(1), pp. 222-227.

Ang, B., Choong, W., & Ng, T. (2015). Energy Security: Definitions, Dimensions and Indexes. Renewable and Sustainable Energy Reviews, 42, pp. 1077–1093. https://doi.org/10.1016/j.rser.2014.10.064

Arı, T., (2004). Uluslararası İlişkiler Teorileri. İstanbul: Alfa Yayıncılık.

Aykın, H., (2017). Jeopolitikten Jeoekonomiye: Ekonomik Güvenliğin Yükselişi., JEOPOLİTİKTEN JEOEKONOMİYE: EKONOMİK GÜVENLİĞİN YÜKSELİŞİ - VERGİ DOSYASI (vergidosyasi.com)

Badi H., B., Young-Jae, C. & Qi, L., (1998). Testing for Random Individual and Time Effects Using Unbalanced Panel Data. Advances in Econometrics, pp. 1-20. https://doi.org/10.1108/S0731-9053(1999)0000013003

Baldwin, D. A. (1996). Security Studies and the End of the Cold War. World Politics, pp. 117–141. https://doi.org/10.1353/wp.1995.0001

Baltagi, B. H. & Li, Q., (1990). A Lagrange Multiplier Test for the Error Components Model with Incomplete Panels. Econometric Reviews, pp. 103-107. https://doi.org/10.1080/07474939008800180

Baltagi, B. H., Young-Jae, C. & Qi, L., (1992). Monte Carlo Results on Several New and Existing Tests for the Error Components Model. Journal of Econometrics, pp. 95-120. https://doi.org/10.1016/0304-4076(92)90101-V

Barkawi, T. & Laffey, M., (2006). The Postcolonial Moment in Security Studies. Review of International Studies, 32(2) pp. 329-352. https://doi.org/10.1017/S0260210506007054

Bayat, M., (1986), Milli Güç ve Devlet. İstanbul: Belge Yayınları.

Baylis, J., Smith, S. & Owens, P., (2020). The Globalization of World Politics. Oxford: Oxford University Press.

Baysal, B. & Lüleci, Ç., (2015). Kopenhag Okulu ve Güvenlikleştirme Teorisi. Güvenlik Stratejileri, 11(22), pp. 61-96. Retrieved from https://dergipark.org.tr/en/pub/guvenlikstrtj/issue/7544/99268

Bell, J. A. & Nuzzo, J. B., (2021). Global Health Security Index: Advancing Collective Action and Accountability amid Global Crisis, Washington, DC: Nuclear Threat Initiative.

Blyth, W. & Lefevre, N., (2004). Energy Security and Climate Change Policy Interactions: An Assessment Framework, CEC: U.S. Department of Energy.

Booth, K., (1991). Security and Emancipation. Review of International Studies. Cambridge: Cambridge University Press, 17(4), pp. 313-326. Security and Emancipation on JSTOR

Booth, K., (2007). Theory of World Security. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511840210

Burgess, J. P., (2010). The Routledge Handbook of New Security Studies. New York: Routledge.

Burguieres, M. K., (1990). Feminist Approach to Peace: Another Step for Peace Studies. Journal of International Studies, 19(1), pp. 1-18. https://doi.org/10.1177/0305829890019001020

Buzan, B. & Hansen, L., (2009). The Evolution of International Security Studies. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511817762

Buzan, B. & Little, R., (1996). Reconceptualizing Anarchy: Structural Realism Meets World History. European Journal of International Relations, 2(4), pp. 403–438. https://doi.org/10.1177/1354066196002004001

Buzan, B. & Wæver, O., (2003). Regions and Powers: The Structure of International Security. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511491252

Buzan, B., (1991). New Patterns of Global Security in the Twenty-First Century. International Affairs, 67(3), pp. 431–451. https://doi.org/10.2307/2621945

Buzan, B., (1993). From International System to International Society: Structural Realism and Regime Theory Meet the English School. International Organization, 47(3) pp. 327–352. https://doi.org/10.1017/S0020818300027983

Buzan, B., (2004). From International to World Society? Cambridge: Cambridge University Press.

Buzan, B., (2009). The English School and International Security. In: The Routledge Handbook of Security Studies. New York: Routledge, pp. 34–44.

Buzan, B., (2015). People, State and Fear - An Agenda for International Security Studies in the Post-Cold War Era. Colchester: ECPR Press.

Buzan, B., Weaver, O. & Wilde, J. D., (1998). Security: A New Framework for Analysis. London: Lynne Rienner Publishers.

Cavelty, M. D. & Mauer, V., (2010). The Routledge Handbook of Security Studies. New York: Routledge. https://doi.org/10.4324/9780203866764

Clapp, J., Moseley, W. G., Burlingame, B., & Termine, P. (2022). Viewpoint: The Case for a Six-dimensional Food Security Framework. Food Policy, 106, pp. 1–10. https://doi.org/10.1016/j.foodpol.2021.102164

Coates, J. et al., (2006). Commonalities in the Experience of Household Food Insecurity across Cultures: What Are Measures Missing? The Journal of Nutrition, 136(5), pp. 1438S–1448S. https://doi.org/10.1093/jn/136.5.1438S

Collins, A., (2013). Contemporary Security Studies. Oxford: Oxford University Press.

CSIS, (2021). CSIS Public Report 2020. Canadian Security Intelligence Service. https://www.canada.ca/content/dam/csis-scrs/documents/publications/2021/CSIS-Public-Report-2020.pdf

Dent, C. M., (2007). "Economic Security", Alan Collins (Edi.), Contemporary Security Studies, Oxford: Oxford University Press, pp. 204-222.

DTI, (2003). Joint Energy Security of Supply Working Group Third Report, OFGEM.

Eckhardt, W., (1985). Theodore Lentz on Peace Research: Scientific Discipline or Scientific Revolution? Peace Research, 17(3), pp. 1–11. https://www.jstor.org/stable/23610088

Economist Impact. (2023). "Global Food Security Index 2022", https://impact.economist.com/sustainability/project/food-security-index/ (Access date: 10.05.2023).

Emmers, R., (2013). Securitization. In: Contemporary Security Studies. Oxford: Oxford University Press, pp. 131–144.

European Commission, (2023). An EU Approach to Enhance Economic Security. An EU approach to enhance economic security (europa.eu)

FAO, (2021). The State of Food Security and Nutrition in the World, Rome: Food and Agriculture Organization of the United Nations.

FEWS NET. (2023). “The Famine Early Warning Systems Network”. https://fews.net/ (Access date: 10.05.2023).

Gasper, D., (2014). Human Security: From Definitions to Investigating a Discourse. In: Routledge Handbook of Human Security. New York: Routledge, pp. 28–42.

GBD. (2023). “The Global Burden of Disease”. https://www.thelancet.com/gbd/about (Access date: 10.05.2023).

Gilpin, R., (2001). Global Political Economy: Understanding the International Economic Order. New Jersey: Princeton University Press.

Hausman, J. A., (1978). Specification Tests in Econometrics. Econometrica, 38, pp. 1251–1271. https://doi.org/10.2307/1913827

Hayek, F. A., (1945). The Road to Serfdom with the Intellectuals and Socialism. London: The Institute of Economic Affairs. http://dx.doi.org/10.2139/ssrn.878756

He, W., Lin, Z. & Hao, R., (2016). Comprehensive Estimation of Industrial Security of High Technology Industry. Journal of Scientific & Industrial Research, 75, pp. 657–661.

Headey, D. D. (2013). Developmental Drivers of Nutritional Change: A Cross-Country Analysis. World Development, 42, pp. 76–88. https://doi.org/10.1016/j.worlddev.2012.07.002

Healthcare Access and Quality Collaborators, (2017). Healthcare Access and Quality Index Based on Mortality from Causes Amenable to Personal Health Care in 1990-2015: a Novel Analysis from Global Burden of Disease Study 2015, London: Lancet.

HM Government, (2010). A Strong Britain in an Age of Uncertainty: The National Security Strategy. https://assets.publishing.service.gov.uk/media/5a74cb2de5274a3cb286738d/national-security-strategy.pdf

Höhn, K. H., (2011). Geopolitics and the Measurement of National Power, Hamburg: Universität Hamburg.

Hough, P., Malik, S., Moran, A. & Pilbeam, B., (2015). International Security Studies: Theory and Practice. New York: Routledge.

Hughes, L., (2012). A Generic Framework for the Description and Analysis of Energy Security in an Energy System. Energy Policy, 42, pp. 221–231. https://doi.org/10.1016/j.enpol.2011.11.079

ICRC, (2020). Economic Security Strategy 2020-2023. FINAL 06.11.2020 (icrc.org)

ILO, (2004). Economic Security for a Better World, Socio-Economic Security Programme. Geneva: ILO; 2004.

IPC. (2023). “The Integrated Food Security Phase Classification”. https://www.ipcinfo.org/ (Access date: 10.05.2023).

Jankovska, L., Tylchyk, V., Khomyshyn, I., (2018). National Economic Security: An Economic and Legal Framework for Ensuring in the Conditions of the European Integration. Baltic Journal of Economic Studies. 4(1), 350-357. https://doi.org/10.30525/2256-0742/2018-4-1-350-357

Jewell, J., (2011). The IEA Model of Short-Term Energy Security (MOSES): Primary Energy Sources and Secondary Fuels, Paris: IEA Energy Papers, No. 2011/17.

Jing, Z., Li, M., Xu, H. & Mei, Y., (2013). Qualitative and Quantitative Evaluation of the Security Degree for Chinese Iron and Steel Industry. LISS.

Jones, A. D., Ngure, F. M., Pelto, G., & Young, S. L. (2013). What Are We Assessing When We Measure Food Security? A Compendium and Review of Current Metrics. Advances in Nutrition, 4(5), pp. 481–505. https://doi.org/10.3945/an.113.004119

Jones, R., (1999). Security, Strategy, and Critical Theory, Critical Security Studies, Colorado: Lynne Reiner Publishers, Inc.

Kahler, M., (2004). Economic Security in an Era of Globalization: Definition and Provision. The Pacific Review. 17(4), pp. 485-424. https://doi.org/10.1080/0951274042000326032

Kaufmann, D., Kraay, A. & Mastruzzi, M., (2010). The Worldwide Governance Indicators: Methodology and Analytical Issues, World Bank Policy Research Working Paper No. 5430.

Kraipornsak, P. (2018). Good Governance and Economic Growth: An Investigation of Thailand and Selected Asian Countries. *Eurasian Journal of Economics and Finance,* *6*(1), 93-106. https://doi.org/10.15604/ejef.2018.06.01.009

Kratochwil, F., (2001). Constructivism as an Approach to Interdisciplinary Study. In: Constructing International Relations, the Next Generation. London: M.E. Sharpe, pp. 13–15. https://doi.org/10.4324/9781315705446

Laborde, D. D., Majeed, F., Tokgoz, S. & Torero, M., (2016). Long-term Drivers of Food and Nutrition Security. IFPRI Discussion Paper.

Lee, C.-M., (2017). A Critical Review of Industrial Security Concepts. Korean Security Journal, pp. 287–303.

Lefèvre, N., (2007). Energy Security and Climate Policy: Assessing Interactions, Paris: International Energy Agency (IEA).

Leroy, J. L., Ruel, M., Frongillo, E. A., Harris, J., & Ballard, T. J. (2015). Measuring the Food Access Dimension of Food Security: A Critical Review and

Mapping of Indicators. Food and Nutrition Bulletin, 36(2), pp. 167–195. https://doi.org/10.1177/0379572115587274

Li, M., (2013). Research on Industrial Security Theory. Beijing: China Centre for Industrial Security Research.

Mabee, B., (2003). Security Studies and the 'Security State': Security Provision in Historical Context. International Relations, 17(2), pp. 135–151. https://doi.org/10.1177/004711780301720

Mehmood, B. & Mustafa, H., (2014). Empirical Inspection of Broadband Growth Nexus: A Fixed Effect with Driscoll and Kraay Standard Errors Approach. Pakistan Journal of Commerce and Social Sciences, pp. 01–10.

Milman, A., Frongillo, E. A., Onis, M. D., & Hwang, J.-Y. (2005). Differential Improvement among Countries in Child Stunting Is Associated with Long-Term Development and Specific Interventions. The Journal of Nutrition, 6, pp. 1415–1422. https://doi.org/10.1093/jn/135.6.1415

Milner, H., (1993). The Assumption of Anarchy in International Relations: A Critique. In: Neorealism and Neoliberalism: The Contemporary Debate. New York: Columbia University Press.

Møller, B. (2000). The Concept of Security: The Pros and Cons of Expansion and Contraction, https://ciaotest.cc.columbia.edu/wps/mob01/

Mondale, W. F., (1974). Beyond Detente: Toward International Economic Security. Foreign Affairs, 53(1), 1–23. https://doi.org/10.2307/20039489

Morgenthau, H. J., (1948). Politics among Nations: The Struggle for Power and Peace. New York: Alfred A. Knopf.

Narula, K. & Reddy, B. S., (2015). Three Blind Men and an Elephant: The Case of Energy Indices to Measure Energy Security and Energy Sustainability. Energy, 80, pp. 148–158. https://doi.org/10.1016/j.energy.2014.11.055

National Health Security Preparedness Index Program Office, (2021). Methodology for the 2021 Release of the National Health Security Preparedness Index, Aurora: Colorado School of Public Health.

NATO, (2017). Allied Joint Doctrine. Brussels: NATO Standardization Office.

Nesadurai, H. E. S., (2004). Introduction: Economic Security, Globalization and Governance. The Pacific Review. 17(4), 459–484. https://doi.org/10.1080/0951274042000326023

Neu, C. R. and Wolf, C, (1994). The Economic Dimensions of National Security. Santa Monica, CA: RAND Corporation. https://www.rand.org/pubs/monograph_reports/MR466.html

NHSPI Program Office. (2021). Methodology for the 2021 Release of the National Health Security Preparedness Index. Aurora: Colorado School of Public Health.

Nye, J.S., (1974). Collective Economic Security. International Affairs. 50(4), 584-598. https://doi.org/10.2307/2615925

O'Brien R.M. (2007). A Caution Regarding Rules of Thumb for Variance Inflation Factors. Quality & Quantity, 41, pp. 673–690. https://link.springer.com/article/10.1007/s11135-006-9018-6

Organski, A. F. K., (1958). World Politics. New York: Random House. https://doi.org/10.1017/S000305540023325X

Rogers, P. & Ramsbotham, O., (1999). Then and Now: Peace Research - Past and Future. Political Studies, pp. 740–754. https://doi.org/10.1111/1467-9248.00229

Ronis, S. R., (2011). Introduction. In S. R. Ronis. (Ed.), Economic Security: Neglected Dimension of National Security (pp. xi-1). Washington: NDU Press.

Scheepers, M., Seebregts, A., Jong, J. d. & Mater, H., (2007). EU Standards for Energy Security of Supply, Netherlands: Energy Research Centre of the Netherlands.

Sen, K. (2014). Governance and Development Outcomes in Asia. In *Governance in Developing Asia*. Edward Elgar Publishing. http://hdl.handle.net/11540/4229

Siddiqui, D., and Ahmed, Q. (2009). Institutions and Economic Growth: A Cross Country Evidence. *MPRA*. January 8, 2010. Retrieved from: https://mpra.ub.uni-muenchen.de/19747/

Simon, D., (1997). Contesting an Essential Concept: Reading Dilemmas in Contemporary Security Discourse. Keith Krause and Michael C. Williams (Eds.). Critical Security Studies, Minnesota: University of Minnesota Press, pp. 3-32. https://doi.org/10.4324/9780203501764

Siyakiya, P. (2017). The Impact of Institutional Quality on Economic Performance: An Empirical Study of European Union 28 and Prospective Member Countries. World Journal of Applied Economics, 2, 3-24. https://doi.org/10.22440/wjae.3.2.1

Smith, C. L., & Haddad, L. (2015). Reducing Child Undernutrition: Past Drivers and Priorities for the Post-MDG Era. World Development, 68, 180–204. https://doi.org/10.1016/j.worlddev.2014.11.014

Smith, M. E., (2010). International Security Politics, Policy, Prospects. New York: Palgrave Macmillan.

Standring, R., (2017). Global Energy Architecture Performance Index Report 2017, Geneva: World Economic Forum.

Stevens, S. S., (1946). On the Theory of Scales of Measurement. Science, 103(2684) pp. 677–680. https://www.science.org/doi/10.1126/science.103.2684.677

Tadjbakhsh, S., (2014). In Defense of the Broad View of Human Security. In: Routledge Handbook of Human Security. New York: Routledge, pp. 43–57.

Tangör, B. (2004). Security Governance Approach and the European Security and Defence Policy. *Gazi Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, vol.6, no.3, 253-268.

Tangör, B., (2012). Turkey's role in European security governance. Central European Journal of International and Security Studies, vol.6, 219-243.

TBMM, (1982). Türkiye Cumhuriyeti Anayasası. Ankara.

Turvey, R.A., (2023). Perspectives on Economic Security, Newcastle: Cambridge Scholars Publishing.

UNDP, (1994). Human Development Report 1994, Oxford: Oxford University Press.

US Department of Defense, (2004). Department of Defense Dictionary of Military and Associated Terms. Washington, DC: Government Printing Office.

Vera, I. & Langlois, L., (2007). Energy Indicators for Sustainable Development. Energy, pp. 875-882.

Ville, A. S., Po, J. Y., Sen, A., Bui, A., & Melgar-Quiñonez, H. (2019). Food Security and the Food Insecurity Experience Scale (FIES): Ensuring progress by 2030. Food Security, 11, pp. 483–491. https://doi.org/10.1007/s12571-019-00936-9

Waever, O., (1995). Securitization and Desecuritization. On Security edited by Ronnie D. Lipschutz, pp. 46--86.

Walker, T. C. & Rousseau, D. L., (2016). Liberalism: A Theoretical and Empirical Assessment. In: Routledge Handbook of Security Studies. New York: Routledge, pp. 22–31. https://doi.org/10.4324/9781315753393

Walt, S. M., (1991). The Renaissance of Security Studies. International Studies Quarterly, 35(2), pp. 211–239. https://doi.org/10.2307/2600471

Wang, Z., (2007). “Conceptualising Economic Security and Governance: China Confronts Globalization”, The Pacific Review, 17(4), 523-545 http://dx.doi.org/10.1080/09512740420003260 50

WEC, (2008). Assessment of Energy Policy and Practices, London: World Energy Council.

Wendt, A., (1999). Social Theory of International Politics. Cambridge: Cambridge University Press. https://doi.org/10.1017/CBO9780511612183

Wibben, A. T., (2010). Feminist Security Studies. In: The Routledge Handbook of Security Studies. New York: Routledge, pp. 84–94.

Williams, P. D., (2008). Security Studies: An Introduction. London: Routledge.

Wohlforth, W. C., (2009). Realism and Security Studies. In: The Routledge Handbook of Security Studies New York: Routledge.

World Bank. (2023). “World Bank Open Data”. https://data.worldbank.org/ (Access date: 10.05.2023).

World Energy Council, (2021). World Energy Trilemma Index, England: the World Energy Council 2021.

World Health Organization, (2018). Joint External Evaluation Tool: International Health Regulations (2005), Second Edition, Paris: World Health Organization.

Yeung, B., (2008). China in the Era of Globalization: The Emergence of the Discourse on Economic Security, The Pacific Review, 21:5, 635-660, https://doi.org/10.1080/09512740802493182

Yu, Z., Li, J. & G. Y., (2022). A Review of Energy Security Index Dimensions and Organization. Institute for the U.S. and Canadian Economies, 3(1), pp. 1–5. https://doi.org/10.46557/001c.28914

Zhu, X., Liao, J., & Chen, Y. (2021). Time-Varying Effects of Oil Price Shocks and Economic Policy Uncertainty on the Nonferrous Metals Industry: From the Perspective of Industrial Security. Energy Economics, 3(1), pp. 1–13. https://doi.org/10.46557/001c.28914

APPENDIX.1. REGIONAL SECURITY COMPLEXES

Table 13 European Regional Security Complex

Income Group	Country	Income Group	County
upper-middle	Albania	high-income	Italy
high-income	Austria	high-income	Luxembourg
high-income	Belgium	high-income	Netherlands
upper-middle	Bosnia & Herzegovina	upper-middle	N. Macedonia
upper-middle	Bulgaria	high-income	Norway
high-income	Croatia	high-income	Poland
high-income	Czech Republic	high-income	Portugal
high-income	Denmark	high-income	Romania
high-income	Finland	high-income	Slovak Republic
high-income	France	high-income	Slovenia
high-income	Germany	high-income	Spain
high-income	Greece	high-income	Sweden
high-income	Hungary	high-income	Switzerland
high-income	Iceland	upper-middle	Türkiye
high-income	Ireland	high-income	United Kingdom

Table 14 Post-Soviet Regional Security Complex

Income Group	Country
upper-middle	Armenia
upper-middle	Belarus
high-income	Estonia
upper-middle	Georgia
upper-middle	Kazakhstan
high-income	Latvia
high-income	Lithuania
upper-middle	Russian Federation
lower-middle	Ukraine
lower-middle	Uzbekistan

Table 15 Middle Eastern Regional Security Complex

Income Group	Country
lower-middle	Algeria
high-income	Bahrain
lower-middle	Egypt, Arab Rep.
lower-middle	Iran, Islamic Rep.
upper-middle	Iraq
high-income	Israel
lower-middle	Lebanon
lower-middle	Morocco
high-income	Oman
high-income	Saudi Arabia
high-income	United Arab Emirates

APPENDIX.2. PCA CALCULATIONS

Table 16 Principal Components/Correlation

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	5.27	4.94	0.88	0.879
Comp2	0.33	0.12	0.06	0.934
Comp3	0.21	0.11	0.04	0.970
Comp4	0.10	0.05	0.02	0.987
Comp5	0.05	0.03	0.01	0.996
Comp6	0.03	.	0.00	1.00
Number of obs	714		Rho	1.00000
Number of comp.	6		Rotation	Principal
Trace	6			

Source: Author's calculation

Table 17 Principal Components (Eigenvectors)

Variable	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Unexplained
wcc	0.42	-0.18	-0.34	-0.52	-0.45	0.45	0.00
wge	0.42	-0.23	-0.26	-0.07	0.83	0.08	0.00
wps	0.37	0.91	-0.18	0.11	0.01	0.01	0.00
wrq	0.42	-0.25	0.08	0.80	-0.22	0.29	0.00
wrl	0.43	-0.19	-0.14	-0.03	-0.23	-0.84	0.00
wva	0.40	0.05	0.87	-0.28	0.05	0.05	0.00

Source: Author's calculation

Table 18 Principal Components/Correlation

Component	Variance	Difference	Proportion	Cumulative
Comp1	1	0.00	0.17	0.17
Comp2	1	0.00	0.17	0.33
Comp3	1	0.00	0.17	0.50
Comp4	1.00	0.00	0.17	0.67
Comp5	1.00	0.00	0.17	0.83
Comp6	1.00	.	0.17	1.00
Number of obs	714		Rho	1.00000
Number of comp.	6		Rotation	Orthogonal
Trace	6			

Source: Author's calculation

Table 19 Rotated Components

Variable	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Unexplained
wcc	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0
wge	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0
wps	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0
wrq	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0
wrl	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0
wva	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0

Source: Author's calculation

Table 20 Component Rotation Matrix

	Comp1	**Comp2**	**Comp3**	**Comp4**	**Comp5**	**Comp6**
Comp1	0.415	0.427	0.421	0.397	0.369	0.418
Comp2	-0.250	-0.186	-0.228	0.045	0.905	-0.175
Comp3	0.075	-0.136	-0.257	0.871	-0.181	-0.344
Comp4	0.795	-0.030	-0.069	-0.278	0.109	-0.522
Comp5	-0.215	-0.234	0.834	0.053	0.013	-0.449
Comp6	0.285	-0.842	0.076	0.047	0.009	0.450

Source: Author's calculation

Table 21 Scoring Coefficients for Orthogonal Varimax Rotation

Variable	**Comp1**	**Comp2**	**Comp3**	**Comp4**	**Comp5**	**Comp6**
wcc	0.000	0.000	0.000	0.000	0.000	1.000
wge	0.000	0.000	1.000	0.000	0.000	0.000
wps	0.000	0.000	0.000	0.000	1.000	0.000
wrq	1.000	0.000	0.000	0.000	0.000	0.000
wrl	0.000	1.000	0.000	0.000	0.000	0.000
wva	0.000	0.000	0.000	1.000	0.000	0.000

Source: Author's calculation

APPENDIX.3. REGRESSION RESULTS

Table 22 Regression Results for All Regions

Random-effects GLS regression					Fixed-effects (within) regression			
lnGDP	**Coef.**	**t-value**	**p-value**	**Sig**	**Coef.**	**t-value**	**p-value**	**Sig**
ins	.11	6.78	0	***	.106	6.55	0	***
lab	.079	17.29	0	***	.078	16.60	0	***
cap	-6.31 e-08	-6.58	0	***	-6.91 e-08	-7.16	0	***
2006	0	.	.		0	.	.	
2007	.041	3.10	.002	***	.042	3.21	.001	***
2008	.063	4.71	0	***	.065	4.89	0	***
2009	.039	2.88	.004	***	.04	3.06	.002	***
2010	.067	5.00	0	***	.069	5.22	0	***
2011	.095	7.03	0	***	.097	7.30	0	***
2012	.107	7.88	0	***	.11	8.19	0	***
2013	.124	9.09	0	***	.127	9.44	0	***
2014	.15	10.93	0	***	.154	11.33	0	***
2015	.176	12.72	0	***	.18	13.15	0	***
2016	.198	14.20	0	***	.203	14.67	0	***
2017	.222	15.73	0	***	.228	16.25	0	***
2018	.244	17.10	0	***	.25	17.64	0	***
2019	.262	18.03	0	***	.268	18.60	0	***
0	0	.	.		0	.	.	
1	0	.	.		0	.	.	
Constant	11.85	92.52	0	***	11.878	382.39	0	***
Mean dependent var		12.522			**Mean dependent var**		12.522	
Overall r-squared		0.505			**R-squared**		0.721	
Chi-square		1691.095			**F-test**		104.735	
R-squared within		0.721			**Akaike crit. (AIC)**		-1888.656	
SD dependent var		1.392			**SD dependent var**		1.392	
Number of obs		714			**Number of obs**		714	
Prob > chi2		0.000			**Prob > F**		0.000	
R-squared between		0.504			**Bayesian crit. (BIC)**		-1810.951	

Source: Author's calculation

*** p<.01, ** p<.05, * p<.1

Table 23 Regression Results for European RSC

Random-effects GLS regression					**Fixed-effects (within) regression**			
lnGDP	**Coef.**	**t-value**	**p-value**	**Sig**	**Coef.**	**t-value**	**p-value**	**Sig**
ins	.134	5.03	0	***	.13	4.99	0	***
lab	.047	6.38	0	***	.04	5.58	0	***
cap	-4.38 e-09	-0.35	.729		-5.63 e-09	-0.45	.65	
2006	0	.	.		0	.	.	
2007	.032	2.08	.038	**	.034	2.24	.026	**
2008	.046	2.90	.004	***	.048	3.14	.002	***
2009	.012	0.73	.467		.013	0.84	.4	
2010	.032	2.03	.042	**	.034	2.18	.03	**
2011	.049	3.06	.002	***	.051	3.27	.001	***
2012	.047	2.95	.003	***	.049	3.16	.002	***
2013	.055	3.38	.001	***	.057	3.61	0	***
2014	.077	4.71	0	***	.079	5.03	0	***
2015	.106	6.47	0	***	.11	6.88	0	***
2016	.127	7.66	0	***	.131	8.15	0	***
2017	.152	9.11	0	***	.157	9.71	0	***
2018	.173	10.22	0	***	.179	10.91	0	***
2019	.191	11.01	0	***	.197	11.74	0	***
0	0	.	.		0	.	.	
1	0	.	.		0	.	.	
Constant	12.11	78.65	0	***	12.16	312.41	0	***
Mean dependent var		12.645			**Mean dependent var**		12.645	
Overall r-squared		0.713			**R-squared**		0.655	
Chi-square		703.46			**F-test**		44.301	
R-squared within		0.653			**Akaike crit. (AIC)**		-1212.115	
SD dependent var		1.455			**SD dependent var**		1.455	
Number of obs		420			**Number of obs**		420	
Prob > chi2		0.000			**Prob > F**		0.000	
R-squared between		0.720			**Bayesian crit. (BIC)**		-1143.430	

Source: Author's calculation

*** p<.01, ** p<.05, * p<.1

Table 24 Regression Results for Middle-East RSC

Random-effects GLS regression					**Fixed-effects (within) regression**			
lnGDP	**Coef.**	**t-value**	**p-value**	**Sig**	**Coef.**	**t-value**	**p-value**	**Sig**
ins	.066	2.66	.008	***	.066	2.86	.005	***
lab	.025	2.83	.005	***	.018	2.12	.036	**
cap	-6.07 e-08	-3.53	0	***	-5.97 e-08	-3.67	0	***
2006	0	.	.		0	.	.	
2007	.049	2.01	.044	**	.05	2.22	.028	**
2008	.099	4.07	0	***	.102	4.47	0	***
2009	.128	5.22	0	***	.132	5.77	0	***
2010	.176	7.12	0	***	.182	7.84	0	***
2011	.222	8.80	0	***	.228	9.70	0	***
2012	.258	10.06	0	***	.266	11.09	0	***
2013	.296	11.23	0	***	.305	12.39	0	***
2014	.331	12.38	0	***	.341	13.63	0	***
2015	.365	13.35	0	***	.376	14.69	0	***
2016	.414	14.73	0	***	.428	16.20	0	***
2017	.436	15.19	0	***	.451	16.70	0	***
2018	.453	15.28	0	***	.468	16.81	0	***
2019	.459	15.09	0	***	.476	16.62	0	***
0	0	.	.		0	.	.	
1	0	.	.		0	.	.	
Constant	12.38	63.79	0	***	12.431	237.88	0	***

Mean dependent var	12.693	**Mean dependent var**	12.693
Overall r-squared	0.074	**R-squared**	0.902
Chi-square	1017.953	**F-test**	73.122
R-squared within	0.901	**Akaike crit. (AIC)**	-464.682
SD dependent var	0.983	**SD dependent var**	0.983
Number of obs	154	**Number of obs**	154
Prob > chi2	0.000	**Prob > F**	0.000
R-squared between	0.060	**Bayesian crit. (BIC)**	-413.054

Source: Author's calculation

*** p<.01, ** p<.05, * p<.1

Table 25 Regression Results for Post-Soviet RSC

Random-effects GLS regression					**Fixed-effects (within) regression**			
lnGDP	**Coef.**	**t-value**	**p-value**	**Sig**	**Coef.**	**t-value**	**p-value**	**Sig**
ins	.079	2.08	.038	**	.104	2.76	.007	***
lab	.111	12.57	0	***	.115	12.86	0	***
cap	-1.33 e-07	-3.70	0	***	-1.13 e-07	-3.11	.002	***
2006	0	.	.		0	.	.	
2007	.065	2.33	.02	**	.061	2.25	.026	**
2008	.088	3.11	.002	***	.082	2.98	.004	***
2009	.035	1.21	.224		.029	1.05	.296	
2010	.06	2.11	.035	**	.054	1.95	.053	*
2011	.106	3.72	0	***	.099	3.58	.001	***
2012	.136	4.74	0	***	.127	4.57	0	***
2013	.165	5.76	0	***	.156	5.60	0	***
2014	.213	7.16	0	***	.203	7.00	0	***
2015	.229	7.72	0	***	.219	7.60	0	***
2016	.242	7.85	0	***	.23	7.64	0	***
2017	.276	8.53	0	***	.262	8.25	0	***
2018	.314	9.54	0	***	.299	9.23	0	***
2019	.352	10.16	0	***	.335	9.78	0	***
0	0	.	.		0	.	.	
1	0	.	.		0	.	.	
Constant	10.86	49.38	0	***	10.79	136.71	0	***
Mean dependent var		11.963			**Mean dependent var**		11.963	
Overall r-squared		0.738			**R-squared**		0.859	
Chi-square		676.012			**F-test**		43.335	
R-squared within		0.857			**Akaike crit. (AIC)**		-386.368	
SD dependent var		1.450			**SD dependent var**		1.450	
Number of obs		140			**Number of obs**		140	
Prob > chi2		0.000			**Prob > F**		0.000	
R-squared between		0.738			**Bayesian crit. (BIC)**		-336.360	

Source: Author's calculation

*** p<.01, ** p<.05, * p<.1

Table 26 Estimation Results of All Regions with Driscoll – Kraay Robust Standard Errors

lnGDP	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ins	0.106	0.020	5.410	0.000	0.064	0.148	***
lab	0.078	0.008	9.720	0.000	0.061	0.095	***
cap	-6.91e-08	0.000	-6.240	0.000	-0.000	-0.000	***
2006	.	.	.	.	,	,	
2007	0.042	0.002	24.330	0.000	0.038	0.046	***
2008	-0.203	0.003	-58.910	0.000	-0.211	-0.196	***
2009	-0.228	0.003	-66.160	0.000	-0.235	-0.220	***
2010	-0.199	0.003	-58.780	0.000	-0.206	-0.191	***
2011	-0.171	0.003	-53.330	0.000	-0.178	-0.164	***
2012	-0.158	0.003	-53.130	0.000	-0.165	-0.152	***
2013	-0.141	0.003	-53.260	0.000	-0.146	-0.135	***
2014	-0.114	0.003	-41.820	0.000	-0.120	-0.108	***
2015	-0.088	0.003	-34.390	0.000	-0.093	-0.082	***
2016	-0.065	0.002	-34.880	0.000	-0.069	-0.061	***
2017	-0.040	0.001	-35.750	0.000	-0.043	-0.038	***
2018	-0.018	0.001	-27.120	0.000	-0.019	-0.017	***
2019	.	.	.	.	,	,	
findummy							
0	.	.	.	.	,	,	
1	0.268	0.005	52.670	0.000	0.257	0.279	***
Constant	11.878	0.046	260.970	0.000	11.780	11.977	***

Number of obs	714	**Prob > F**	0.0000
Number of groups	51	**Maximum lag**	2
F(16, 13)	1587.06	**Within R-squared**	0,72

Source: Author's calculation

*** p<.01, ** p<.05, * p<.1

Table 27 Estimation Results of European RSC with Driscoll – Kraay Robust Standard Errors

lnGDP	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ins	0.130	0.051	2.560	0.024	0.020	0.239	**
lab	0.040	0.004	10.310	0.000	0.032	0.049	***
cap	-5.63e-09	0.000	-0.850	0.410	-0.000	0.000	
2006	.	.	.	.	.	,	
2007	0.034	0.003	11.720	0.000	0.028	0.040	***
2008	-0.150	0.004	-36.240	0.000	-0.159	-0.141	***
2009	-0.184	0.004	-48.730	0.000	-0.193	-0.176	***
2010	-0.164	0.004	-45.710	0.000	-0.171	-0.156	***
2011	-0.147	0.004	-39.610	0.000	-0.155	-0.139	***
2012	-0.148	0.004	-37.060	0.000	-0.157	-0.139	***
2013	-0.140	0.003	-42.700	0.000	-0.147	-0.133	***
2014	-0.118	0.004	-29.700	0.000	-0.126	-0.109	***
2015	-0.088	0.004	-24.920	0.000	-0.095	-0.080	***
2016	-0.066	0.003	-21.320	0.000	-0.073	-0.060	***
2017	-0.040	0.002	-16.980	0.000	-0.045	-0.035	***
2018	-0.018	0.001	-16.930	0.000	-0.020	-0.016	***
2019	.	.	.	.	.	,	
findummy							
0	.	.	.	.	.	,	
1	0.197	0.006	33.620	0.000	0.185	0.210	***
Constant	12.168	0.045	268.740	0.000	12.071	12.266	***

Number of obs	420	**Prob > F**	0.0000
Number of groups	30	**Maximum lag**	2
F(16, 13)	574.50	**Within R-squared**	0.65

Source: Author's calculation
*** p<.01, ** p<.05, * p<.1

Table 28 Estimation Results of Middle-East RSC with Driscoll – Kraay Robust Standard Errors

lnGDP	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ins	0.066	0.011	5.780	0.000	0.042	0.091	***
lab	0.018	0.007	2.670	0.019	0.003	0.033	**
cap	-5.97e-08	0.000	-3.380	0.005	-0.000	-0.000	***
2006	.	.	.	.	,	,	
2007	0.050	0.001	62.800	0.000	0.048	0.052	***
2008	.	.	.	.	,	,	
2009	0.031	0.001	29.890	0.000	0.028	0.033	***
2010	0.080	0.002	38.980	0.000	0.076	0.084	***
2011	0.127	0.003	39.490	0.000	0.120	0.134	***
2012	0.164	0.004	41.240	0.000	0.156	0.173	***
2013	0.204	0.005	41.600	0.000	0.193	0.214	***
2014	0.240	0.006	40.910	0.000	0.227	0.252	***
2015	0.275	0.007	39.990	0.000	0.260	0.290	***
2016	0.326	0.008	42.070	0.000	0.309	0.343	***
2017	0.349	0.009	40.060	0.000	0.330	0.368	***
2018	0.367	0.010	36.860	0.000	0.345	0.388	***
2019	0.374	0.011	35.430	0.000	0.351	0.397	***
findummy							
0	.	.	.	.	,	,	
1	0.102	0.001	70.270	0.000	0.098	0.105	***
Constant	12.431	0.030	412.510	0.000	12.366	12.496	***

Number of obs	154	**Prob > F**	0.0000
Number of groups	11	**Maximum lag**	2
F(16, 13)	915.62	**Within R-squared**	0.90

Source: Author's calculation
*** p<.01, ** p<.05, * p<.1

Table 29 Estimation Results of Post-Soviet RSC with Driscoll – Kraay Robust Standard Errors

lnGDP	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
ins	0.104	0.049	2.110	0.054	-0.002	0.210	*
lab	0.115	0.009	12.230	0.000	0.094	0.135	***
cap	- 1.13e-07	0.000	-2.560	0.024	-0.000	-0.000	**
2006	.	.	.	.	.	,	
2007	0.061	0.007	8.330	0.000	0.045	0.077	***
2008	-0.253	0.021	-12.020	0.000	-0.298	-0.207	***
2009	-0.306	0.021	-14.450	0.000	-0.351	-0.260	***
2010	-0.281	0.020	-13.700	0.000	-0.325	-0.237	***
2011	-0.236	0.019	-12.120	0.000	-0.278	-0.194	***
2012	-0.207	0.018	-11.720	0.000	-0.246	-0.169	***
2013	-0.178	0.017	-10.540	0.000	-0.215	-0.142	***
2014	-0.132	0.014	-9.530	0.000	-0.161	-0.102	***
2015	-0.115	0.015	-7.690	0.000	-0.148	-0.083	***
2016	-0.104	0.011	-9.800	0.000	-0.128	-0.081	***
2017	-0.073	0.006	-12.010	0.000	-0.086	-0.060	***
2018	-0.036	0.004	-8.470	0.000	-0.045	-0.027	***
2019	.	.	.	.	.	,	
findummy							
0	.	.	.	.	.	,	
1	0.335	0.031	10.720	0.000	0.267	0.402	***
Constant	10.790	0.115	93.700	0.000	10.541	11.038	***

Number of obs	140	**Prob > F**	0.0000
Number of groups	10	**Maximum lag**	2
F(16, 13)	714.25	**Within R-squared**	0.86

Source: Author's calculation

*** p<.01, ** p<.05, * p<.1

APPENDIX.4. REGRESSİON RESULT OF LOGARITHMIC MODEL

Table 30 Log-log Model Regression Results for All Regions

lnGDP	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
lnins	0.017	0.005	23071	0.003	0.007	0.027	***
lnlab	0.203	0.039	42491	0.000	0.118	0.289	***
lncap	0.516	0.084	41426	0.000	0.334	0.698	***
2006	,	,	,	,	,	,	
2007	0.023	0.003	19937	0.000	0.018	0.029	***
2008	0.035	0.008	16893	0.001	0.018	0.052	***
2009	-0.016	0.006	-2.95	0.011	-0.028	-0.004	***
2010	-0.014	0.003	-5.03	0.000	-0.019	-0.008	***
2011	,	,	,	,	,	,	***
2012	-0.006	0.002	-3.15	0.008	-0.01	-0.002	***
2013	-0.005	0.002	-2.83	0.014	-0.01	-0.001	***
2014	0.009	0.004	45628	0.054	0	0.019	**
2015	0.029	0.006	30407	0.000	0.016	0.042	***
2016	0.041	0.008	12905	0.000	0.024	0.057	***
2017	0.065	0.008	12997	0.000	0.048	0.082	***
2018	0.078	0.009	19937	0.000	0.058	0.098	***
2019	0.081	0.01	45390	0.000	0.06	0.102	***
0	,	,	,	,	,	,	
1	-0.026	0.013	-2.1	0.056	-0.053	0.001	***
Constant	45327	1148	13606	0.001	2539	45419	***

Source: Author’s calculation

*** p<.01, ** p<.05, * p<.1

APPENDIX.5. ETHICS COMMISSION FORM

	HACETTEPE ÜNİVERSİTESİ SOSYAL BİLİMLER ENSTİTÜSÜ	Doküman Kodu *Form No.*	FRM-DR-12
		Yayım Tarihi *Date of Pub.*	22.11.2023
	FRM-DR-12 Doktora Tezi Etik Kurul Muafiyeti Formu *Ethics Board Form for PhD Thesis*	Revizyon No *Rev. No.*	02
		Revizyon Tarihi *Rev.Date*	25.01.2024

HACETTEPE ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
İKTİSAT ANABİLİM DALI BAŞKANLIĞINA

Tarih: 28/05/2024

Tez Başlığı Ekonomik Güvenliğin Ölçülmesi: Seçilmiş Devletlerin ve Blokların Karşılaştırılması

Tez Başlığı (Almanca/Fransızca)*::.....
.....

Yukarıda başlığı verilen tez çalışmam:

1. İnsan ve hayvan üzerinde deney niteliği taşımamaktadır.
2. Biyolojik materyal (kan, idrar vb. biyolojik sıvılar ve numuneler) kullanılmasını gerektirmemektedir.
3. Beden bütünlüğüne veya ruh sağlığına müdahale içermemektedir.
4. Anket, ölçek (test), mülakat, odak grup çalışması, gözlem, deney, görüşme gibi teknikler kullanılarak katılımcılardan veri toplanmasını gerektiren nitel ya da nicel yaklaşımlarla yürütülen araştırma niteliğinde değildir.
5. Diğer kişi ve kurumlardan temin edilen veri kullanımını (kitap, belge vs.) gerektirmektedir. Ancak bu kullanım, diğer kişi ve kurumların izin verdiği ölçüde Kişisel Bilgilerin Korunması Kanuna riayet edilerek gerçekleştirilecektir.

Hacettepe Üniversitesi Etik Kurullarının Yönergelerini inceledim ve bunlara göre çalışmamın yürütülebilmesi için herhangi bir Etik Kuruldan izin alınmasına gerek olmadığını; aksi durumda doğabilecek her türlü hukuki sorumluluğu kabul ettiğimi ve yukarıda vermiş olduğum bilgilerin doğru olduğunu beyan ederim.

Gereğini saygılarımla arz ederim.

Görkem DURAK

Öğrenci Bilgileri			
	Ad-Soyad	Görkem DURAK	
	Öğrenci No	N18144283	
	Enstitü Anabilim Dalı	İktisat	
	Programı	İngilizce İktisat-Doktora	
	Statüsü	**Doktora** ☒	**Lisans Derecesi ile (Bütünleşik) Dr** ☐

DANIŞMAN ONAYI

UYGUNDUR.
Prof.Dr. Özgür TEOMAN

* Tez **Almanca** veya **Fransızca** yazılıyor ise bu kısımda tez başlığı **Tez Yazım Dilinde** yazılmalıdır.

	HACETTEPE ÜNİVERSİTESİ SOSYAL BİLİMLER ENSTİTÜSÜ	Doküman Kodu *Form No.*	FRM-DR-12
		Yayım Tarihi *Date of Pub.*	22.11.2023
	FRM-DR-12 Doktora Tezi Etik Kurul Muafiyeti Formu *Ethics Board Form for PhD Thesis*	Revizyon No *Rev. No.*	02
		Revizyon Tarihi *Rev.Date*	25.01.2024

HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
DEPARTMENT OF ECONOMICS

Date: 28/05/2024

ThesisTitle (In English): Measuring the Economic Security: Comparison of Selected States and Blocks

My thesis work with the title given above:

1. Does not perform experimentation on people or animals.
2. Does not necessitate the use of biological material (blood, urine, biological fluids and samples, etc.).
3. Does not involve any interference of the body's integrity.
4. Is not a research conducted with qualitative or quantitative approaches that require data collection from the participants by using techniques such as survey, scale (test), interview, focus group work, observation, experiment, interview.
5. Requires the use of data (books, documents, etc.) obtained from other people and institutions. However, this use will be carried out in accordance with the Personal Information Protection Law to the extent permitted by other persons and institutions.

I hereby declare that I reviewed the Directives of Ethics Boards of Hacettepe University and in regard to these directives it is not necessary to obtain permission from any Ethics Board in order to carry out my thesis study; I accept all legal responsibilities that may arise in any infrigement of the directives and that the information I have given above is correct.

I respectfully submit this for approval.

Görkem DURAK

Student Information					
	Name-Surname	Görkem DURAK			
	Student Number	N18144283			
	Department	Economics			
	Programme	Doctor of Philosophy in Economics-Ph.D.			
	Status	**PhD**	☒	**Combined MA/MSc-PhD**	☐

SUPERVISOR'S APPROVAL

APPROVED
Prof.Dr.Özgür TEOMAN

APPENDIX.6. ORIGINALITY REPORT

	HACETTEPE ÜNİVERSİTESİ SOSYAL BİLİMLER ENSTİTÜSÜ	Doküman Kodu *Form No.*	FRM-DR-21
		Yayım Tarihi *Date of Pub.*	04.01.2023
	FRM-DR-21 Doktora Tezi Orijinallik Raporu *PhD Thesis Dissertation Originality Report*	Revizyon No *Rev. No.*	02
		Revizyon Tarihi *Rev.Date*	25.01.2024

HACETTEPE ÜNİVERSİTESİ
SOSYAL BİLİMLER ENSTİTÜSÜ
İKTİSAT ANABİLİM DALI BAŞKANLIĞINA

Tarih: 07/06/2024

Tez Başlığı: Ekonomik Güvenliğin Ölçülmesi: Seçilmiş Devletlerin ve Blokların Karşılaştırılması

Tez Başlığı (Almanca/Fransızca)*:.....

Yukarıda başlığı verilen tezimin a) Kapak sayfası, b) Giriş, c) Ana bölümler ve d) Sonuç kısımlarından oluşan toplam 90 sayfalık kısmına ilişkin, 07/06/2024 tarihinde şahsım tarafından Turnitin adlı intihal tespit programından aşağıda işaretlenmiş filtrelemeler uygulanarak alınmış olan orijinallik raporuna göre, tezimin benzerlik oranı % 1 'dir.

Uygulanan filtrelemeler**:

1. ☒ Kabul/Onay ve Bildirim sayfaları hariç
2. ☒ Kaynakça hariç
3. ☒ Alıntılar hariç
4. ☐ Alıntılar dâhil
5. ☒ 5 kelimeden daha az örtüşme içeren metin kısımları hariç

Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü Tez Çalışması Orijinallik Raporu Alınması ve Kullanılması Uygulama Esasları'nı inceledim ve bu Uygulama Esasları'nda belirtilen azami benzerlik oranlarına göre tezimin herhangi bir intihal içermediğini; aksinin tespit edileceği muhtemel durumlarda doğabilecek her türlü hukuki sorumluluğu kabul ettiğimi ve yukarıda vermiş olduğum bilgilerin doğru olduğunu beyan ederim.

Gereğini saygılarımla arz ederim.

Görkem DURAK

Öğrenci Bilgileri			
	Ad-Soyad	Görkem Durak	
	Öğrenci No	N18144263	
	Enstitü Anabilim Dalı	İktisat	
	Programı	İngilizce İktisat-Doktora	
	Statüsü	**Doktora** ☒	**Lisans Derecesi ile (Bütünleşik) Dr** ☐

DANIŞMAN ONAYI

UYGUNDUR.
Prof.Dr.Özgür TEOMAN

*Tez **Almanca** veya **Fransızca** yazılıyor ise bu kısımda tez başlığı **Tez Yazım Dilinde** yazılmalıdır.
**Hacettepe Üniversitesi Sosyal Bilimler Enstitüsü Tez Çalışması Orjinallik Raporu Alınması ve Kullanılması Uygulama Esasları İkinci bölüm madde (4)/3'te de belirtildiği üzere: Kaynakça hariç, Alıntılar hariç/dahil, 5 kelimeden daha az örtüşme içeren metin kısımları hariç (Limit match size to 5 words) filtreleme yapılmalıdır.

	HACETTEPE ÜNİVERSİTESİ SOSYAL BİLİMLER ENSTİTÜSÜ	Doküman Kodu *Form No.*	FRM-DR-21
		Yayım Tarihi *Date of Pub.*	04.01.2023
	FRM-DR-21 Doktora Tezi Orijinallik Raporu *PhD Thesis Dissertation Originality Report*	Revizyon No *Rev. No.*	02
		Revizyon Tarihi *Rev.Date*	25.01.2024

TO HACETTEPE UNIVERSITY
GRADUATE SCHOOL OF SOCIAL SCIENCES
DEPARTMENT OF ECONOMICS

Date: 07/06/2024

Thesis Title (In English): Measuring the Economic Security: Comparison of Selected States and Blocks

According to the originality report obtained by myself/my thesis advisor by using the Turnitin plagiarism detection software and by applying the filtering options checked below on 07/06/2024 for the total of 90 pages including the a) Title Page, b) Introduction, c) Main Chapters, and d) Conclusion sections of my thesis entitled above, the similarity index of my thesis is 1 %.

Filtering options applied**:

1. ☒ Approval and Decleration sections excluded
2. ☒ References cited excluded
3. ☒ Quotes excluded
4. ☐ Quotes included
5. ☒ Match size up to 5 words excluded

I hereby declare that I have carefully read Hacettepe University Graduate School of Social Sciences Guidelines for Obtaining and Using Thesis Originality Reports that according to the maximum similarity index values specified in the Guidelines, my thesis does not include any form of plagiarism; that in any future detection of possible infringement of the regulations I accept all legal responsibility; and that all the information I have provided is correct to the best of my knowledge.

I respectfully submit this for approval.

Görkem DURAK

Student Information					
	Name-Surname	Görkem DURAK			
	Student Number	N18144263			
	Department	Economics			
	Programme	Doctor of Philosophy in Economics-Ph.D.			
	Status	**PhD**	☒	**Combined MA/MSc-PhD**	☐

SUPERVISOR'S APPROVAL

APPROVED
Prof.Dr.Özgür TEOMAN

**As mentioned in the second part [article (4)/3]of the Thesis Dissertation Originality Report's Codes of Practice of Hacettepe University Graduate School of Social Sciences, filtering should be done as following: excluding refence, quotation excluded/included, Match size up to 5 words excluded.