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THE EFFECT OF POLITICAL INSTABILITY OF NEIGHBORING COUNTRIES ON ECONOMIC GROWTH: A COMPARATIVE ANALYSIS

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ÇEVRE ÜLKELERDEKİ POLİTİK İSTİKRARSIZLIĞIN EKONOMİK BÜYÜMEYE ETKİSİ: KARŞILAŞTIRMALI BİR ÇALIŞMA

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ÇEVRE ÜLKELERDEKİ POLİTİK İSTİKRARSIZLIĞIN EKONOMİK BÜYÜMEYE ETKİSİ: KARŞILAŞTIRMALI BİR ÇALIŞMA

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ÖZET

Bu çalışma, komşu ülkelerdeki siyasi istikrarsızlık ile ekonomik büyüme arasındaki ilişkiyi, kurumsal iktisat perspektifinden incelemektedir. Araştırma, neoklasik, içsel ve kurumsal büyüme teorilerinin katkılarını entegre ederek dış siyasi istikrarsızlığın farklı ülke bağlamlarında yerel ekonomik performansı nasıl etkilediğini incelemektedir. Ana analizler, sağlam standart hatalara sahip iki aşamalı en küçük kareler sabit etkiler modeli kullanılarak gerçekleştirilmiştir. Analizler, komşu ülkelerdeki siyasi istikrarsızlığın ekonomik büyüme üzerinde yatırım, beşeri sermaye, kamu harcamaları ve ticaret gibi aktarım kanalları aracılığıyla genel olarak olumsuz bir etkisi olduğunu ortaya koymaktadır. Etki bölgeye, rejim türüne, etnik heterojenliğe ve gelir düzeyine göre değişmekte, öyle ki yüksek gelirli ve ekonomik olarak entegre bölgeler daha fazla kırılganlık gösterirken, diğer farklı şartlar altındaki bölge ve ülkelerde göç veya ticaretin yeniden yönlendirilmesi gibi fırsatlar nedeniyle olumlu etkiler sergileyebilmektedir. Alternatif ölçümler, veri setleri ve tahmin yöntemleri kullanılarak yapılan sağlamlık kontrolleri bulguların tutarlılığını teyit etmektedir, ancak sürekli istikrarsız ülkelerdeki veri güvenilirliği sorunları ve kontrol değişkenlerinin potansiyel içselliği, altta yatan etkinin daha güçlü olabileceği ihtimalini ortaya koymaktadır. Çalışma, sürdürülebilir büyüme için bölgesel istikrarın önemini vurgulamakta, bölgesel işbirliği ve kurumsal dayanıklılık yoluyla dış şokların azaltılmasına yönelik politika çıkarımlarına kapı aralamaktadır. Bu araştırma, siyasi ortam ve ekonomik sonuçlar arasındaki bağlantıyı vurgulayarak, ekonomik kalkınma literatürüne katkıda bulunmayı ve böylece büyüme dinamiklerini anlamak için çok boyutlu bir yaklaşıma duyulan ihtiyacı öne çıkarmayı amaçlamaktadır. Sınırlamalar arasında güvenilir veriye erişim zorlukları ve uzun vadeli etkilerin ve ek aktarım mekanizmalarının daha fazla araştırılması ihtiyacı yer almaktadır. Veri kısıtlamaları gibi sınırlamalar, nitel vaka çalışmaları ve alternatif istikrarsızlık ölçümleri gibi gelecekteki araştırma yollarını önermektedir.

Anahtar Kelimeler: Ekonomik Büyüme, Kurumsal İktisat, Komşu Ülke Siyasi İstikrarsızlığı, Rejim Tipi, Siyasi İstikrarsızlık

THE EFFECT OF POLITICAL INSTABILITY OF NEIGHBORING COUNTRIES ON ECONOMIC GROWTH: A COMPARATIVE ANALYSIS

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ABSTRACT

This study investigates the relationship between political instability in neighboring countries and economic growth by adopting an institutional economics perspective. The research examines how external political instability influences domestic economic performance across diverse country contexts by integrating the contributions of neoclassical, endogenous, and institutional growth theories. The main analyses were conducted by employing a two-stage least squares fixed-effects model with robust standard errors. The analyses reveal a generally negative impact of neighboring political instability on economic growth, mediated through transmission channels such as investment, human capital, government expenditure, and trade. The effect varies by region, regime type, ethnic heterogeneity, and income level, with high-income and economically integrated regions showing greater vulnerability, while some contexts exhibit positive effects due to opportunities like migration or trade redirection. Robustness checks using alternative measurements, datasets, and estimation methods confirm the consistency of the findings, though data reliability issues in persistently unstable countries and the potential endogeneity of control variables suggest the underlying impact may be stronger. The study highlights the importance of regional stability for sustainable growth, offering policy implications for mitigating external shocks through regional cooperation and institutional resilience. By highlighting the linkage between political environments and economic outcomes, this research aims to contribute to the literature on economic development, thereby emphasizing the need for a multidimensional approach to understanding growth dynamics. Limitations include data challenges and the need for further exploration of long-term effects and additional transmission mechanisms. Limitations, such as data constraints, suggest directions for future research, including qualitative case studies and alternative instability metrics.

Keywords: Economic Growth, Institutional Economics, Neighboring Political Instability, Regime Type, Political Instability

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ABBREVIATIONS

2SLS : Two-Stage Least Squares

3SLS : Three-Stage Least Squares

A : Growth Residual

AR(1) : First order autocorrelation

BERI : Business Environmental Risk Intelligence

BT_j : Bilateral Trade Volume between j-th Neighboring and i-th Host Country

CEE : Central and Eastern Europe

CNTS : Cross-National Time-Series Data

CPI : Consumer Price Index

EIU : Economist Intelligence Unit

FE : Fixed Effect

FSI : Fragile States Index

GARCH : Generalized Autoregressive Conditional Heteroskedasticity

GCC : Gulf Cooperation Council

GDP : Gross Domestic Product

GFCF : Gross Fixed Capital Formation to GDP Ratio

GMM : Generalized Method of Moments

Govex : Government Expenditure

ICRG : International Country Risk Guide

IFS : International Financial Statistics

ILO : International Labor Organization

IMF : International Monetary Fund

IMTS : International Trade in Goods

IV : Instrumental Variable

LDCs : Less developed countries

Lnrgdp : Log level of real GDP per capita

MENA : Middle East and North Africa

ML : Maximum Likelihood

NBFSI : Neighboring Fragile States Index

NNPI : Neighbors' Neighbors' Political Instability

NPI : Neighboring Political Instability

OECD : Organization for Economic Co-operation and Development

OLG : Overlapping Generations

OLS : Ordinary Least Squares

P2SLS : Two-Stage Panel Least Squares

PI : Domestic Political Instability

PIM : Perpetual Inventory Method

PITF : Political Instability Task Force

P_j : Political Instability of j-th Neighboring Country of the i-th Country

PLS : Panel Least Squares

PPP : Purchasing Power Parity

PRS : Political Risk Services

PSAV : Political Stability and the Absence of Violence

PWT : Penn World Table

RCK : Ramsey-Cass-Koopmans

RE : Random Effect

SUR : Seemingly Unrelated Regressions

TFP : Total Factor Productivity

TT_i : Total Trade Volume of the i-th Country with Its Neighbors

UCDP : Uppsala Conflict Data Program

UCM : Unobserved Components Model

UN : United Nations

VIF : Variance Inflation Factor

WBS : World Bank Enterprise Surveys

WDI : World Development Indicators

WGI : Worldwide Governance Indicators

WITS : World Integrated Trade Solutions

WJP : World Justice Project

WPI : Wholesale Price Inflation

WTO : World Trade Organization

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INTRODUCTION

Background and Context

Economic growth remains a core field of macroeconomic inquiry, driven by the fundamental purpose of enhancing the welfare of societies. As evidenced by historical data, the trajectory of economic growth varies drastically across time and space. For instance, real GDP per capita in Western Europe rose from $20,000 four decades ago to $40,000 in recent years, while East Asian economies accelerated from $4,000 to $21,000 over the same period. In contrast, Sub-Saharan Africa has seen only a tripling of per capita income over two centuries, underscoring persistent underperformance. These disparities, illustrated in Graph 1.1 of this dissertation, highlight the absence of universal convergence in global economic performance, posing critical questions about the underlying drivers of growth.

The study of economic growth has evolved significantly since the classical economists emphasized land, labor, and capital. The Harrod-Domar model introduced savings and investment as key growth mechanisms, while the neoclassical Solow model shifted focus to capital accumulation, labor, and exogenous technological progress. However, the limitations of these models, particularly their assumption of technology as exogenous, pave the way for the development of endogenous growth theories. Scholars like P. M. Romer and Robert Lucas emphasized human capital, knowledge spillovers, and research and development (R&D) as internal drivers of sustained growth. Further, increasing the steady-state level of economic growth of countries can be enhanced only through an increase in productivity, which is possible with enhancements in human capital and technological advancements. More recently, institutional economics has reframed growth and its components revealed by neoclassical economics as a multidimensional process shaped by institutional structures, political systems, and historical legacies.

The institutional economics approach argues that the mainstream economics approach is insufficient in revealing the ultimate causes of economic activities and processes. Institutional economics reveals that production inputs such as labor, capital, and land are insufficient to explain differences in economic growth across space and time. Long-term solutions can be developed by analyzing economic performance not only in terms of proximate causes such as saving levels, employment rate, foreign direct investments, foreign trade volume, etc. but also by identifying the institutional structures and necessary transformations that provide the environment that creates them. Besides these proximate causes, there are more fundamental causes that make economic differences particularly pronounced in the long run. Institutional structures, as the core determinants of these inputs of production, are found to determine the distribution and allocation relations of economic processes in the long run. Political structures, geographical circumstances, historical backgrounds, and social ways of thinking affect decision-making not only in macro- but also in micro-scale processes through determined forms, which are sometimes called path-dependent. Therefore, examining the interaction of sociological, historical, psychological, and political institutional structures through interdisciplinary methods in economic growth and development studies has a more prominent role in producing more fundamental solutions for the economic performance of countries. This dissertation is expected to be built on these foundations, focusing on a relatively underexplored dimension: the impact of political instability in neighboring countries on economic growth.

The global landscape of economic performance reveals sharp contrasts, such as the East Asian *miracle* versus Latin America's *lost decades*. These examples emphasize the role of non-economic factors in shaping growth outcomes. While domestic political instability has been extensively studied, the spillover effects of instability in neighboring countries—termed Neighboring Political Instability (NPI) in this study—have received less attention. Yet, regional instability can disrupt trade, investment, and human capital flows, with significant economic consequences across neighboring countries. This dissertation seeks to address this gap by examining how the instabilities of neighboring countries influence economic growth across diverse regional and income conditions.

Problem Statement

The uneven distribution of economic growth across countries remains as a main question in economics. Why do some nations achieve rapid and sustained growth while others suffer in stagnation or volatility, even when some of them are starting from similar economic conditions, is still a question that deserves thorough investigation. Traditional growth models, such as Solow's neoclassical framework, predict convergence among countries with comparable savings and population growth rates. However, empirical evidence reveals persistent income disparities, thus challenging the convergence hypothesis originated from neoclassical growth models. Scholars like Barro and Sala-i-Martin argue for conditional convergence, conditioned for countries on similar institutional and economic structures, while some others highlight how knowledge accumulation or an increase in productivity can exacerbate divergence in an economic environment that benefits from increasing returns to scale. These debates underscore the need to explore factors beyond capital, labor, and technology.

Political instability emerges as a critical determinant of economic performance, particularly through its impact on institutions and resource allocation. While domestic instability with its manifestations as coups, civil wars, political violence types or civil unrest, has been linked to reduced growth, the regional dimension of instability remains underexplored. Neighboring political instability can create economic uncertainty, disrupt cross-border trade, and trigger migration or security concerns even if a country has secured its domestic political stability, all of which may impede growth. Furthermore, the impact channels and the direction of the impact can vary across different country-specific contexts. For example, European countries, with their high economic integration, may have distinct reflections to regional destabilizing events, whereas East Asia or Latin American countries exhibit unique dynamics. The literature lacks a comprehensive analysis of how neighboring political instability affects growth across different regions and income levels, and what transmission channels, such as investment, human capital, or trade, mediate these effects.

This dissertation addresses this gap by investigating the impact of neighboring political instability on economic growth, with a focus on regional, ethnic composition, regime type, and income-level variations, as well as the impact of domestic political instability

will be compared. Theoretically, integrating regional spillovers into growth frameworks can refine the analyses of institutional economics, thereby offering a broader understanding of cross-country income disparities. Practically, policymakers in regions that are more prone to political instability require evidence-based strategies to alleviate their economic consequences or seize potential opportunities. The understanding of economic growth remains incomplete, and the ability to design effective policies in an interconnected global economy will be limited without addressing this gap. This dissertation seeks to fill this gap by examining neighboring political instability's impact on economic growth, its transmission channels, and its variations across regions and income levels, contributing to both academic discourse and policy development.

Research Objectives and Questions

The primary objective of this study is to examine the impact of political instability in neighboring countries on economic growth, with an emphasis on regional, ethnic, regime type, and income-level heterogeneity. By integrating insights from institutional economics and growth theories, the study seeks to uncover the mechanisms through which neighboring political instability influences economic performance and to assess the robustness of these findings across alternative model specifications, weighting methods, and datasets.

The dissertation addresses the following research questions:

1. How does neighboring political instability affect economic growth across countries? This question is the main objective of the study, since while domestic instability's impact is extensively investigated, regional spillovers are still underexplored. Establishing whether neighboring political instability significantly influences growth across countries paves the way for analyzing its mechanisms and variations to contribute to economic growth understanding by highlighting fundamental factors in economic performance.
2. How do the effects of neighboring political instability vary across geographical regions of Europe and West Asia, East Asia and the Pacific, Central Asia, South Asia, Middle East and North Africa, North America, Latin America, or Sub-Saharan Africa? Exploring regional variations accounts for geopolitical and

economic heterogeneity, challenging the growth models that address countries uniformly. It ensures country-specific insights, aligning with the study's focus on diverse circumstances of countries.

3. How do income levels modulate the impact of neighboring political instability on economic growth? Examining income-level differences reveals how economic structures shape the possible impact. This question ensures the study's relevance across diverse contexts, offering nuanced insights into how the wealth of countries interferes with regional instability's economic consequences.

4. Do regime type differences affect the linkage between neighboring political instability and economic growth? Investigating regime type differences reveals how political structures mediate the economic effects of neighboring political instability. This mediation can potentially indicate whether democracies are more vulnerable to regional instability than autocracies, as well as whether a multiplier effect exists or not.

5. Does the potential impact diverse across different ethnically more fragmented societies? Examining the role of ethnic fragmentation investigates whether social diversity influences the economic effects of neighboring political instability. Highly fragmented societies may be more prone to instability spillovers due to internal divisions, while cohesive ones may resist the negative spillovers.

6. Is domestic political instability more disruptive than neighboring political instability? Comparing domestic and neighboring instability is intended to reveal whether internal or external factors have a greater influence on growth. This question aims to extend the institutional approach by evaluating the relative significance of domestic versus regional instability to clarify whether policymakers should prioritize internal governance, regional integration, or isolation.

Apart from the research objectives, the study has two considerations in properly discussing the results obtained from the analyses:

1. What are the possible transmission channels through which neighboring political instability influences economic growth? Identifying how neighboring political

instability affects growth through channels like investment or migration is essential for linking theory to the field. This question aims to uncover the mechanisms driving economic outcomes, thus enabling policymakers to target specific factors of economic development to control the effects of political instability. It connects the political environment with economic impacts so that the study's practical relevance can be enhanced.

2. Are the findings robust to alternative measures of political instability, weighting methods of the index of political instability, and econometric methods? Testing robustness is expected to ensure the reliability of the findings of econometric tests by addressing methodological concerns like endogeneity, incorrect determination of estimators, measurement errors, inappropriate weighting methods, or sensitivity to different model specifications. This question is required to strengthen the study's reliability, especially in empirical analyses.

These questions are established to guide the empirical analysis, which relies on a panel dataset covering between 159 and 172 countries and employs econometric techniques to ensure causal inference and robustness.

Significance of the Study

This dissertation is expected to have significant theoretical and practical contributions to the fields of economic growth and institutional economics. Theoretically, it extends the institutional approach by incorporating the regional dimension of political instability, which is an overlooked factor in traditional growth models. Keeping in mind the social infrastructure as a driver of productivity, this study argues that neighboring instability has an impact on domestic institutions and economic outcomes through spillovers across neighboring countries. By examining neighboring political instability, the dissertation tries to bridge neoclassical and endogenous growth theories with institutional perspectives, thereby offering a multidimensional framework for understanding cross-country income differences.

Understanding the drivers of economic growth remains a main challenge in economics, yet traditional models focusing on proximate causes such as capital accumulation, labor, and technological progress fail to fully explain persistent cross-country disparities. While

institutional economics has expanded the field by incorporating the role of domestic political stability and governance, there is a possibility that these frameworks may overlook the broader contexts shaping economic outcomes. The study addresses this limitation by examining the impact of neighboring political instability on economic growth, as well as integrating country-specific characteristics and geopolitical realities into a comprehensive analytical framework. Its significance is expected to lie in both its theoretical contributions and practical implications by providing a multifaceted perspective on economic development.

Theoretically, the study is expected to enrich the institutional approach by demonstrating that economic growth cannot be fully understood through common models or domestic factors alone. By incorporating the impact of neighbors of countries, it captures the regional spillovers of instability through various factors such as disrupted trade, discouragement from investments, or migration, that profoundly affect sovereign economies. Furthermore, the analysis accounts for country-specific factors, such as economic structures, historical legacies, regime types, and income levels, which amplify the possible outcomes of the investigation of the impact of neighboring political instability. The study also emphasizes geopolitical contexts to recognize that a country's location to destabilizing areas or its role in regional affiliation shapes its long-term economic trajectory. This broader framework challenges the reliance on proximate causes in explaining economic growth and suggests multidimensional approaches that can reflect the heterogeneity of sovereign economies, thereby improving the understanding of growth theory.

Practically, the findings offer critical insights for policymakers navigating complex regional dynamics. The study offers guidance on mitigating the economic fallout of neighboring instability by identifying key transmission channels through different contexts. Country and region-specific strategies, such as investment incentives or regional cooperation, can mitigate adverse effects in areas where the impacts of political instability are more severe. Conversely, regions that are more prone to destabilizing events can leverage opportunities from neighboring political instability through trade, redirection of government spending, capital attraction, or migration policies. By highlighting the interplay of country-specific and geopolitical factors, the study enables more effective,

context-sensitive policy implementations. Its expected contribution lies in bridging these dimensions, addressing a critical gap in the literature, and providing a basis for future research into the complicated nature of economic growth in an interconnected global environment.

Scope and Limitations

The study focuses on the impact of neighboring political instability on economic growth, utilizing a panel dataset of 159-172 countries varying according to the data availability, covering the period between 1996 to 2023, as informed by data sources like the World Governance Indicators, the World Bank databank, IMF databank, UN databank and the Fragile States Index. The study examines regional variations and compares differences across income levels, regime types, ethnic diversity levels, and political instability types. It employs two-stage least squares fixed effects to conduct comparisons across different model specifications, and country-groupings, as well as analyses to reveal possible transmission channels, i.e., investment, government expenditure, human capital, and trade. The scope is limited to neighboring political instability, though the domestic political instability itself and interactions with domestic political instability are included in further analyses to maintain analytical focus on regional spillovers.

Several limitations must be acknowledged, such that firstly, measuring neighboring political instability relies on quantitative indices, such as the custom neighboring political instability index (NPI) and neighboring fragile states index (NBFSI), which may not fully capture the qualitative dimensions of political instability. The NBFSI, at this point, is potentially constraining its explanatory power because of its limited coverage post-2006. Data reliability is another concern, particularly in countries where major political crises exist, like Syria or Sudan, where inconsistent reporting across sources may introduce errors, especially during extreme destabilizing periods. Moreover, excluding such countries may not overcome this concern because it risks selection bias, thereby reducing the variability of the index of neighboring political instability and potentially leading to spurious estimations due to low statistical power of instability. Furthermore, isolating the full effect of political instability is complicated because control variables may interact with political instability, thus absorbing part of its impact in econometric models and possibly underestimating its role. Lastly, the focus on aggregate channels may overlook

specific disruptions, and domestic circumstances like local institutions could shape outcomes.These limitations, on the other hand, suggest alternative and country-specific analyses for future research.

Structure of the Dissertation

The dissertation is organized into five chapters that are exerted to be built on the previous ones to provide a cohesive analysis of the relationship between neighboring political instability and economic growth. The first chapter reviews the evolution of growth theories from classical models to neoclassical, endogenous, and institutional approaches, the theories that ultimately explore the underlying causes of the vast differences across periods and countries. The chapter elaborates on neoclassical models, which bring forth the importance of capital accumulation and exogenous technological progress, and endogenous growth theories, which indicate the role of human capital and knowledge spillovers. It concludes with institutional economics, emphasizing the role of political, cultural, and historical dimensions of countries in shaping economic outcomes. The chapter then establishes the foundation for integrating political instability into growth theories by analyzing the strengths and limited considerations of regional factors in these theories.

The second chapter examines political instability as a substantial institutional factor influencing economic performance with an emphasis on its conceptual and empirical dimensions. It elaborates on the debates on whether political stability or regime type matters more for economic growth, so as to locate the relative importance of political instability properly in the institutional framework. The chapter presents the common approach of different definitions of political stability as the regularity of political processes and durability of authority establishments, distinguishing it from the mere absence of violence. It categorizes manifestations of instability as violent political events, government-related instability, war and conflict, social and ethnic tensions, institutional and regime originated, and electoral and legislative instabilities based on the most common distinctions of political instability dimensions and identifies sources like urbanization, ethnic diversity, political factionalism, and income inequality. Measurement challenges are addressed due to the multidimensional and subjective nature of instability, including regime changes, protests, coups, and violence. Lastly, the chapter

introduces regional political instability, thereby highlighting spatial spillovers and geographical influences on economic performance to pave the way for analyzing neighboring political instability in subsequent chapters.

The third chapter explores both causal directions and transmission mechanisms to investigate the complicated relationship between political instability and economic growth. It is endeavored to combine the empirical and theoretical studies, thus finding that political instability often negatively impacts growth by undermining property rights, deterring investment, and disrupting productivity, though some analyses suggest insignificant or context-dependent results for the linkage. The chapter also examines reverse causality, where economic performance influences political stability, with a presentation of mixed findings on whether growth fosters stability or exacerbates instability, especially during transition periods. It also analyzes instability's effects on other economic indicators, including income inequality, inflation, fiscal policy, investment, capital flows, human capital, and savings to expand the linkage with economic performance beyond growth. The chapter highlights the overlooked role of regional political instability, particularly stemming from neighboring countries, which is assumed to impact the host countries through trade disruptions, increased military spending, and migration. Thus, a novel focus on geopolitical spillovers of political instability is proposed for economic growth studies.

The fourth chapter outlines the data and methodological framework for analyzing the impact of neighboring political instability on economic growth. It emphasizes selecting comprehensive, reliable datasets to capture the multidimensional and subjective nature of political instability. Therefore, the neighboring political instability index derived from weighting by the bilateral trade volume of neighbors' political stability index retrieved from the Worldwide Governance Indicators' political stability index is employed, considering the comprehensiveness of the index. The inclusion of control variables in addition to NPI, including human capital, physical capital, inflation, trade openness, population growth, government expenditure, and labor, is justified. In order to employ the relevant data, sources like the Penn World Table, World Bank, and UN Comtrade are used, ensuring robust coverage and standardization. The methodology employs a two-stage least squares (2SLS) model with fixed effects to address the endogeneity of the

relationship, as well as tests for endogeneity, weak instruments, autocorrelation, heteroskedasticity, and model selection. This approach is expected to ensure precise estimation of the impact of neighboring political instability, controlling for country-specific heterogeneity and global shocks.

The fifth chapter presents and interprets the findings from the two-stage least squares fixed-effects model. The analyses explore the causal relationships by correcting for endogeneity, with robustness checks incorporating various lists of control variables. The validity of instruments and model specifications is tested with a diverse set of model specifications to ensure reliable estimates. The economic and statistical significance of the results is interpreted in relation to the questions of the study, highlighting the implications that are relevant for growth dynamics. Additionally, the heterogeneous effects across country attributes, which are regime type, income level, and geographic region, as well as comparison between domestic and neighboring political instability, are examined to understand country-specific variations. Investment, human capital, government expenditure, and trade are analyzed to elucidate the potential transmission mechanisms through which instability affects growth. Lastly, robustness tests with alternative measurements, datasets, weighting methods, and estimators are conducted to validate the reliability of the findings.

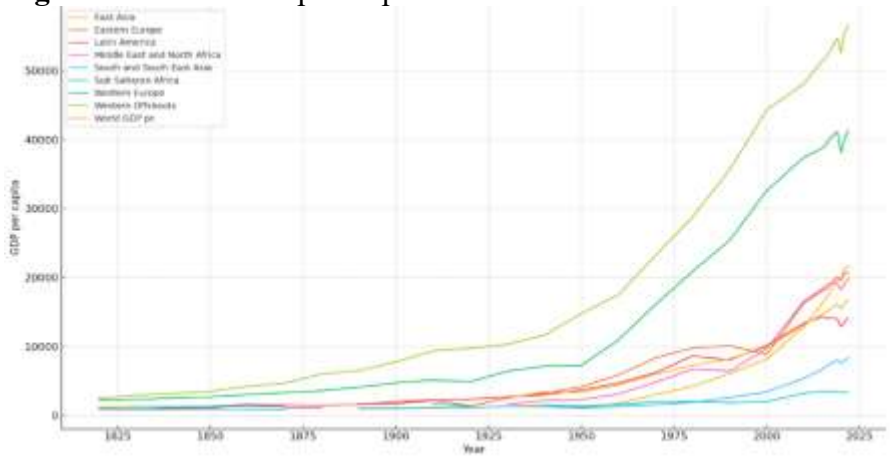
CHAPTER ONE

THEORIES OF ECONOMIC GROWTH

1.1. Introduction

Macroeconomics books and courses mostly start with economic growth theories. It is understandable because, in economics, the basic motivation is to improve the well-being of the people. Even though economic growth does not necessarily ensure the well-being of people, it is still believed that welfare cannot be sustained without sustainable economic growth. Therefore, a huge number of economists focused on the questions of the reasons for economic growth, key factors behind economic growth to unveil the solutions of prosperity, like the East Asian miracle, in contrast to Latin America's lost decades. Further, the questions are inevitably directed at the comparisons of the vast discrepancies between the economic performances of the countries. Thus, the question is valid not only for countries themselves but across countries. Before the study dives into the pursuit of the research on the relationship between political stability and economic growth, the trajectory of economic growth theories will be elaborated to locate the importance of the subject matter.

Figure 1.1. Real GDP per Capita in constant 2011 US dollars



Source: (Bolt & Van Zanden, 2024)

The world has been witnessing disproportionate rates of economic growth across time and space. Positive growth rates are interrupted more in middle-income countries than those of low- and high-income countries. Angus Maddison Project sustains comprehensive Gross Domestic Product (GDP) forecasts to compare between the spatial and temporal contexts. The real GDP per capita (indexed to 2011 US dollar prices) for the Western European countries increased from 32 thousand dollars to 40 thousand dollars within the last two decades, while the figures were about 20 thousand dollars four decades ago. It implies a slowdown in the growth of real GDP per capita for developed Western European countries. The real GDP per capita, on the other hand, for East Asia countries rose from 8 thousand dollars to 21 thousand dollars for the same period. It was about 4 thousand dollars 4 decades ago. The numbers imply an acceleration of growth per capita for the East Asian countries for the last forty years, in contrast to European countries. The growth story, however, is quite dissimilar when we look at the growth rates for the former centuries. The real GDP per capita soared from 2 thousand dollars to 11 thousand dollars from 1820 to 1960 for the Western European countries, while East Asian countries experienced less than a doubling within the same period. While the comparison between East Asia countries and Western European countries shows an exchange of performance, the Sub-Saharan African countries exhibited a separate story of underperformance for the whole two centuries, as they only tripled the real GDP per capita over the whole two centuries (Bolt & Van Zanden, 2024).

Figure 1.1 implies there is no clear convergence or divergence across the countries or regions. All these contradictory numbers across time and space force us to elaborate on the economic growth theories to understand the underlying forces of economic growth and, eventually, economic development.

Economic growth has begun to be considered in a multidimensional framework such that while some approaches focus on factors of production based on capital accumulation, labor growth, and technological progress, others have questioned how technological progress itself is produced and emphasized dynamics such as human capital, knowledge accumulation, and technological innovation. In addition to that, how factors such as institutional structures, political systems, quality of governance, and the rule of law impact economic performance have also become central to the debate. From an even

broader perspective, the impact of factors such as geographical location, historical heritage, colonial history, or cultural values on economic growth has also been examined. In this way, the issue of growth has become a multidisciplinary field of analysis rather than a pure technical accounting.

Especially since the second half of the 20th century, differences in growth across countries have become more visible, as can be seen in Graph 1.1, and it has become a matter of curiosity why countries with similar initial conditions follow very different growth paths. On the one hand, some countries developed rapidly, while others remained in economic stagnation and poverty, leading to the question of why growth was unevenly distributed, resulting in huge differences in cross-country income levels. Over time, differences not only between countries but also between regions within the same country have begun to be analyzed more. These studies demonstrate that economic growth is not random, but the result of specific structures and policies, and have deepened the understanding of the sources of growth.

In this framework, different theoretical approaches have developed various models and perspectives to explain economic growth. The theories presented in this section aim to show how the issue of growth has become a multifaceted economic question and how the answers to this question have diversified over time.

Models that are developed to explain economic growth have tried to answer different questions in different periods and prioritized certain factors in this direction. The neoclassical growth model, especially that of Solow, focused on capital accumulation, labor growth, and exogenous technological progress, and argued that technology is the main source of growth in the long run. However, since technological progress is considered exogenous in this model, the question of the reasons for the development of technology cannot be answered directly.

Endogenous growth models, which were developed to overcome this shortcoming, have argued that technological development itself can be explained by economic decisions and emphasized endogenous processes such as Research and Development (R&D) activities, investments in human capital, and the diffusion of knowledge. Thus, these models have

been able to provide stronger answers to the question of what policies can promote sustainable growth.

The institutional economics approach goes beyond the factors of production by labeling them as proximate causes and draws attention to the institutional infrastructure that makes long-run growth possible. From this perspective, it has been argued that factors such as property rights, the rule of law, bureaucratic efficiency, and political stability determine economic performance. This approach aimed to unravel the contradictions, such as why growth is persistent in some countries and why it is constantly interrupted in others.

1.2. Keynesian Approach: Harrod-Domar Model

Classical economists sought the fundamentals of economic prosperity within a wide range, from the division of labor to the rent of land. These attempts put forward land, labor, and capital as cornerstones for economic prosperity. Nonetheless, most of the economics books consider that the beginning of economic growth studies started with the systematic macroeconomic works of Keynes. The Harrod-Domar model is derived from the studies of Keynes. Nonetheless, Domar emphasized that the Keynesian model lacks a labor force because it is considered a function of income, which only allows us to analyze for short periods. However, in the long run, employment demand could alter with the productive capacity (Domar, 1946, p. 139). Harrod asserted that economic growth could be understood by moving from static to dynamic analysis because of its inherent nature (Harrod, 1939, p. 22). The criticisms raised against the Keynesian model guided Harrod and Domar to introduce systematic growth modeling.

Harrod and Domar introduced the articulation of capital, investment, and saving as the grounds for economic growth in an analytical framework. The model suggests that economic growth is a function of savings and the capital-to-production ratio. Savings are assumed as the equivalent of investments. This basic model implies an increase in savings, which eventually increases investments and increases the growth rate. On the other hand, lower levels of capital accumulation enable higher proportions of economic growth. One of the deviations of the model from Keynes's model is that investment is not just a positive parameter included in the income, but any increase in investment also

increases production capacity (Domar, 1946, p. 139). The assumption implies technological advancement, even though there is no clear place for it yet.

There are three different types of economic growth notions in the model. The guaranteed growth rate is the rate required for a balanced growth of capital accumulation and output. According to Harrod, an economy needs to grow at this rate to remain in stable growth. If the actual growth rate deviates from the guaranteed growth rate, the economy may become unstable. The natural rate of growth, on the other hand, is the maximum rate of growth that can be achieved through labor force growth and technological developments. It represents the rate of growth required for the economy to maintain full employment. The natural growth rate depends on labor supply growth and technological progress. If the warranted rate of growth lags behind the natural rate, then the full-employment economy cannot be maintained, leading to a rise in the unemployment rate.

The Harrod-Domar model was criticized from different perspectives. Further, the model's knife-edge economic growth equilibrium suggestion directed successors to efforts to reground the model in a more deterministic or pro-stability way (Hagemann, 2009, p. 69) because the Harrod-Domar model implies any inconsistency between the warranted rate of growth and the actual rate of growth or between the warranted rate of growth and the natural rate of growth gives rise to an instability in an economy. The model suffers from vital factors of economic growth. Technology is not included in the model, which is granted as an exogenous variable. Succeeding growth studies incorporated technology into economic growth models. Another challenge facing the model is the assumption that all the savings are transferred to the investment, while in some cases, this may not be true. These challenges led Robert Solow to establish a model taking technology into account.

1.3. Neoclassical Growth Theories

Neoclassical growth theories approach economic growth based on the efficient combination of factors of production, especially capital and labor. One of the basic assumptions of these theories is the principle of diminishing returns, which is the assumption that output increase is yielded in a lesser amount as one factor of production increases, while other factors are constant. The most well-known model of this approach, the Solow model, argues that growth can only be sustained in the long run through

technological progress. While capital accumulation and population growth can explain growth up to a certain level, which is assumed to be the steady state level, technological progress is included in the model as an exogenous factor. These theories also put forward the *convergence* hypothesis to explain the growth differences between countries. According to this hypothesis, countries with similar savings rates and population growth rates will reach similar income levels over time. However, this assumption has not always been valid in practice, and many countries have failed to achieve this convergence due to structural reasons.

Neoclassical theories have tried to explain growth with simplified and measurable factors, thus providing an abstract yet mathematically solid framework. However, the limitation of this approach is that it considers one of the main determinants of growth, which is technological progress, as exogenous. This limitation paved the way for the endogenous growth theories to be developed later, thus the effort to explain the internal dynamics of growth has emerged.

1.3.1. Solow's Growth Model

Solow proposes a model that provides substitution between capital and labor in a flexible production function so that any scarcity in one factor can be compensated with a further usage of the abundant one (Solow, 1956, pp. 65–66). While the Harrod-Domar model was considerably theorized under the influence of the Keynesian approach, Solow's growth model is proposed within the Neoclassical framework. Trevor Swan developed his model, resembling Solow's, at a similar time. Swan emphasized that diminishing returns to capital lead to the absorption of an increase in the saving rates, so that a steady state cannot be surpassed through saving rate increase policies. Ultimately, technological progress is indispensable for an increase in economic growth above the steady state. It is clearly stated in Swan's study that the growth in capital and output is determined by the growth of labor and technology (Swan, 1956, pp. 338–339).

Solow applies Cobb-Douglas mathematical production functions to create an economic production model that enables us to show marginal diminishing returns on productive factors and the interchangeable nature of the contribution of economic factors to economies. The function contains productive factors that have powers less than one so as

to present the diminishing returns to inputs of capital and labor. The derivations of the input factors make it clear that the marginal productivity of input factors increases as the factors decrease, and the marginal productivity of factors decreases as inputs increase (Barro & Sala-i-Martin, 2004, pp. 27–30). At this point, it should be noted that because the sum of the powers of the inputs is equal to one, there is a constant return to scale to output, though we have diminishing returns to each individual input.[1]

On the other hand, the powers of the factors enable any change of the distribution within themselves, which ensures the relativity of the contribution of the economic productive factors. Lastly, the Cobb-Douglas functional form allows the modeling effort to take derivatives and integrals easily, which are required in the analysis of moments, such as the growth of factors.

In Solow's model, savings lead to an increase in per capita capital (k) as long as it exceeds the depreciation of capital and population growth rates. However, the assumption of diminishing marginal returns to capital implies that the contribution of capital to economic growth diminishes as the saving rate increases. After some point, an increase in capital cannot offset the decline stemming from the effective depreciation, so that capital starts to fall again. The countereffects of the saving rate and effective depreciation push the capital rate into a place where it is called a "steady state." The steady state implies not a stagnant economy, but it forces the economy to a balanced growth path. Wherever an economy starts off, it converges to a balanced growth path where the factors grow at a constant rate (D. Romer, 2012, pp. 16–18). The convergence theory that emerged with neoclassical growth studies has been widely discussed. The model's suggestion made scholars test the validity of the theory quantitatively to see if there was any trace of convergence between countries across the years. There have been lots of studies revealing that there is no strict evidence for unconditional convergence between countries. In their prominent study, Barro and Sala-i Martin assert that observed convergence should be examined with its separate components corresponding to the effects of marginal diminishing returns of capital, mobility of labor and capital across countries, and gradual diffusion of technology across economies. Since the barriers on

[1] See (Acemoglu, 2009, pp. 33–34) for mathematical background and relevant graphs of the assumption of Inada conditions

some of these components, technological context, natural resources, and government policies, countries have disproportional steady-state levels. Thus, observed convergence indicates conditional convergence that is possible only if the initial economic and institutional structures of the countries are similar to the contrary absolute convergence notion, which can be discovered in US states that are homogenous in terms of steady-state levels (Barro & Sala-I-Martin, 1992). Paul M. Romer goes a step further by asserting that technological advancements and the accumulation of knowledge can deepen the gap between countries by bringing about increasing returns to capital (Romer, 1986). In the middle of the rise of the nonconvergence assertions, Mankiw and others (1992) claimed that it is possible to reconcile diminishing returns to capital with the introduction of human capital into the growth equations.

1.3.2. Augmentation of Solow with Human Capital

Even though Solow's model presents a good basis for the description of the sources of economic growth, it is still limited in explaining the cross-country income differences (D. Romer, 2012). Furthermore, despite the convergence theory that countries will eventually approximate similar economic growth levels, there is no convergence among countries, but they reach separate levels of income. Mankiw and others confirm that the Solow model justifies the relationship between savings and population growth and economic growth, but the model is incapable of determining the magnitudes of the effects. According to them, the inclusion of human capital allows us to assess most of the magnitudes of the effects of savings and population growth on economic growth (Mankiw et al., 1992, p. 418).

Mankiw and others expanded Solow's model by incorporating human capital into the basic model. They claimed that the objections to the Solow model around the convergence conclusion and insufficiency of the explanation for the cross-country income differences were actually caused by omitting human capital from the basic Solow model. They conducted a quantitative analysis, implementing economic performance data for 98 countries that they could have retrieved. Their main findings of the analysis are that the inclusion of human capital captures the consistency of convergence theory and the reasons behind the cross-country income differences. They put forward the importance of holding constant the human capital level, as well as the saving rate and initial per capita

income rates, to reveal convergence (Mankiw et al., 1992). For them, the model is valid as long as it is augmented with human capital. This conclusion is shared by the study of Levine and Renelt (1992) that growth regressions show the significance of convergence through the explanatory variable of base year GDP as having a negative effect on economic growth, as long as human capital is included in the models.

Adding human capital in growth models to reveal the convergence theories is attacked by Baumol (1986). He asserts that the convergence theory can be applied only under sub-groups of countries, which is called *club convergence*, a term to evoke exclusive country groupings in convergence analyses. Therefore, convergence could prevail in countries only those that have adequate initial human capital that can benefit from technology transfers, unlike conventional theories that expect poorer countries will utilize the advantages of backwardness. Similar to the human capital argument against non-convergence claims, Sachs and Warner (1995, p. 35) put forward the importance of considering trade openness in convergence calculations. The convergence theory is employed in the context of countries that adopt open trade policies, leveraging comparative advantages, specialization, and the diffusion of knowledge and technology. In contrast, closed economies suffer from low growth rates, hence exacerbating the disparity between open economies.

Caselli et al. (1996, p. 365) argue that actual convergence rates are much higher, at 10 percent, which is quite assertive considering the 2-3 percent findings of existing studies. These inconsistent conclusions mainly result from the mistreatment of country-specific factors like technological, tastes, and cultural differences, as well as disregarding the endogeneity of some variables that lead to striking variations in results. For them, the high rate of convergence that they find implies that the growth rates of countries mostly lie near their steady-state levels. This implication leads them to consider that large differences in income levels across countries stem from the huge differences in steady-state levels rather than the differences in the positions of their own transitional steady-state paths. The set of technological dissimilarities plays a crucial role in the dispersion of steady-state levels across countries (Caselli et al., 1996).

1.3.3. Microeconomic Augmentation of the Solow Model: Ramsey-Cass-Koopmans Model

Ramsey provided a model to solve mathematically the decision-making process of households between saving and consumption (Ramsey, 1928). David Cass and Tjalling C. Koopmans benefited from the mathematical optimization of Ramsey to figure out the optimal economic growth path. The model known as Ramsey-Cass-Koopmans is a combination of these scholars. The RCK model combines the microeconomic decision-making process of households with the Solow growth model in a way that economic growth is considered a dynamic process. The optimization of household behavior makes it possible to analyze the saving rate endogenously in the model.

Households continuously optimize their consumption in a lifetime assumed to be infinite by making decisions between consumption and saving to maximize their lifetime utility levels. The behavior of firms represents Solow's production function and assumptions on production in the RCK model. The consumption choices of households are distributed between consumption and savings, which are presumed to be future consumption. The trade-off that the model presents forces capital accumulation to the point that Pareto efficiency is sustained, so that neither capital accumulation nor consumption habits differ. Low consumption levels push capital accumulation upward, which pushes the consumption levels upward. In the same way, any excess level of capital pushes the consumption level reduction, leading to a decrease in capital rates, which is called the saddle path of the dynamics between capital and consumption rates.

Koopmans emphasizes that through their efforts to examine the behavior of saving rates, technological progress, and population growth rates should also be considered as factors affected by political and social policies (Koopmans, 1963). The Ramsey-Cass-Koopmans model builds on the production function of the Solow model. Both models imply that the core engine of economic growth lies in capital accumulation. The economic growth path can be escalated only with the advancement in technology in the long term. Another similarity between these models, they predict a steady state for economic growth in a way that the factors of production grow at a stable rate.

In contrast to the similarities, there are some substantial divergences from the Solow model. The RCK model deals with the possible saving rates endogenously by creating an optimization model of household decisions, while the saving rate is examined exogenously in the Solow model. The microeconomic approach to the saving rate enables the model to combine the equilibrium for the golden level of consumption and the equilibrium level of economic growth, though they are considered to exist at different levels of output in the Solow model. Because the Solow model assumes that any country can increase its saving rate to a level above the golden rule, people can be better off in consumption because due to the larger scale of production, while the assumption of RCK on the consumption choices makes it impossible to surpass the golden rule level of consumption (D. Romer, 2012, p. 65).

1.3.4. Overlapping Generations Model of Diamond

Diamond takes saving rates endogenously by taking into consideration the consumption behavior of households, just as in the RCK model. However, Diamond separates the lifetime of households into two parts. Households participate in the labor force in a way that distributes their income between consumption and savings for the first part of their lifetime. In the second one, they consume what they saved plus its interest gained (Diamond, 1965). At different ages, households have different amounts and compositions of savings; thus, the difference in age within the same generation and the difference across generations disable to establishment of a model considering the choices of the households as total (Blanchard, 1985).

The discount rate in the model shows the intertemporal utility assessment of the households. Lower discount rates mean a higher appreciation of current savings and vice versa. Another difference that is introduced in the OLG model is the changeable discount rate. The discount rate represents the saving preferences of households. It is assumed to be constant in the RCK model, while it can be changeable in the Diamond model (Barro & Sala-i-Martin, 2004, p. 185). Though it can reflect the alterable nature of the preferences, the changeable discount rate assumption complicates the obtaining of an equilibrium growth path (Epstein & Hynes, 1983, p. 618).

OLG model's assumptions on production functions and utility functions make it possible to reach different types of steady states or none at all. When the logarithmic utility function and Cobb-Douglas production function are introduced to the model, a steady state where capital per worker grows at a constant g is achieved, similar to the Solow model. The model implies various kinds of equilibrium points without these assumptions. The per unit of effective labor of capital can reach multiple equilibrium points; there could be unstable equilibrium points, or an insufficient level of initial capital could lead per unit of effective labor of capital stock to fall to zero level. Therefore, stable economic performance may not be sustained at all (D. Romer, 2012, pp. 87–90).

The model also has no superiority over the Solow or RCK model in terms of the capability to explain cross-country income differences or unbounded growth (Acemoglu, 2009, p. 354; D. Romer, 2012, p. 101). In his article, Diamond accepts that his model could bring forth dynamic inefficiency in competitive environmental assumptions. In the model, capital accumulation could exceed the golden rule level so that the marginal productivity of capital falls below the population growth rate (P. A. Diamond, 1965). Households save excessive amounts of capital, thereby lowering their welfare below the possible gain from that excessive savings, whereas the RCK model proposes an equilibrium point where the golden rule level of the capital-labor ratio maximizes the welfare of households.

Solow's model reveals to us that capital accumulation cannot be held responsible for long-run sustainable economic growth or catching up with the rest of the world to the developed economies. At that point, the productivity of labor in Solow's model became the source of explanation for cross-country income differences. Therefore, productivity, or in more concrete terms of technology, is not just an autonomous factor; quite the contrary, its trajectory has a reciprocal relationship with capital accumulation. This conclusion led some economists to incorporate the technology explicitly into the economic growth models.

1.4. Endogenous Growth Models

Neoclassical growth theories put forward capital accumulation through savings as the source of economic growth. The only way to achieve the rise of economic growth level is possible with the A, which is productivity or technological change. Technological

change is assumed to be an exogenous variable; thus, these models do not provide an analysis to examine any interactions between production factors and technological change. The succeeding studies on growth theories shifted their focus on technological advancements to reveal if there is any possibility of reaching sustainable long-term economic growth. Factors of production are considered to have diminishing marginal returns, whereas endogenous growth theories argue that factors of production could actually have increasing returns to scale with the multiplier effect of technological advancements or human capital.

1.4.1. AK Models

The AK model is a simplified version of the Solow production function. A represents technological advancements and know-how or productivity, while K represents capital accumulation. The main divergence of the model from the neoclassical approach is that there is no assumption of diminishing marginal returns to capital. The production function has linearity in parameters.

At this point, P. M. Romer argues that the marginal diminishing returns assumption urges countries to converge with each other in the long run. However, the data containing growth rates of both poor and rich countries shows that there is no convergence taking place for the above-stated years range (P. M. Romer, 1994, p. 4). Differences in technical capacities, human capital, and investment ratios could inhibit or block the convergence possibilities of poor countries. For him, neoclassical growth theory implies that different countries have the capability to reach the same technology of production, while technological advancement has a positive divergent effect on that country's economic performance through knowledge spillovers. Benefiting from Arrow's study (1962), P. M. Romer theorizes the possibility of observing constant or even increasing returns to capital. The spillover of knowledge enables other firms to benefit from innovations in a way that they implement novel knowledge in their production processes.

Even though AK challenges the convergence theory, it does not give clear answers to the cross-country income differences. Sergio Rebelo points out that the constant returns to scale assumption is enough to explain the long-run growth, especially if public policy

supports capital accumulation (Rebelo, 1991). Further endogenous models deal with the research and development processes explicitly to point out this problem.

1.4.2. Reintroducing Human Capital: Lucas Model

Robert Lucas criticizes the neoclassical economic growth theories for two reasons. He asserts that the neoclassical model cannot account for the diversity of income across countries. Income differences do not shrink with time, contrary to the implications of the theory. Secondly, the Solow model implies that capital and labor move from countries that have lower rates of marginal return to the ones that have higher rates of marginal return for the relevant factors. Eventually, it would have to lead to equality in factor prices. He put forward counterfactual examples to these two arguments (Lucas, 1988).

Lucas introduces human capital into the economic growth model. He expands the notion of human capital by referring to the concept of *learning by doing*, which reflects the accumulation of knowledge in the labor force. Learning by doing has marginal diminishing returns because the additional contribution of expertise gets lower by nature. However, when the assumptions are relaxed, countless novel goods enter the market, so that learning processes for novel goods start over again. Eventually, the entry of novel goods makes it possible to have constant or even increasing returns. Besides, countries are inclined towards the products they have learned better, which is the expected consequence of the comparative advantage.

Every country is inclined to do what it is best at. The difference in goods and services leads to separation in learning skills, thereby directing at different comparative advantages. Those differences in learning skills and their marginal returns to production place them on different growth paths. The comparative advantage of certain products pushes countries to increase their learning skills in certain areas. These different learning skills have their separate growth potential, thereby indicating the absence of the possibility of convergence between countries at all (Lucas, 1988).

Besides the internal effects of human capital, it also has external benefits to the surrounding population. Education, craftsmanship, or other kinds of learning processes have advantages not only for the individuals dealing with the processes but also for the

people or firms related to them (Lucas, 1988). This nature of human capital makes it hard to quantify, while it can have a multiplying effect on economic growth. Benhabib and Spiegel ran a series of regressions of human capital on economic growth, and they could not find solid positive causation between them. They then analyze whether human capital has an indirect effect on economic growth through productivity and technology. They emphasize that an increase in human capital accelerates economic growth not just by making existing technology more productive but also by introducing the utilization of novel technologies developed abroad to domestic production activities. Therefore, human capital should be entered into the Cobb-Douglas production function; it can only affect it indirectly. The importance of this difference is that the substantial effect of human capital on economic growth is its stock level rather than its growth rate (Benhabib & Spiegel, 1994, p. 166).

1.4.3. Research and Development (R&D)-Based Endogenous Growth Models

While neoclassical models heavily rely on exogenous parameters to explain economic growth, endogenous models try to shift the focus to human capital, knowledge, productivity, and technology internally. Paul M. Romer started by elaborating on the nature of technology to enhance the measurement capacity of growth models. The incentive nature of technology to accumulate capital, people's market-oriented innovation intentions, and the possibility of infinite use of knowledge, once it has been created, are the main arguments for him to take technology as an endogenous factor in the explanation of economic growth (Romer, 1990).

The basic problem of Solow's model is the incapability in the assessment of the nature of technology. Solow's model considers the nature of technology or knowledge (represented as A) as non-rival, which consequently cannot explain the role of technology and income differences. On the other hand, Romer also argues against Lucas that his model takes human capital as a non-rival factor, which implies its spillover effect across all markets. These models, for Romer, overlook people's market-oriented innovation intentions. Firms try to exceed the marginal rate of profit, thereby capturing technological innovations. Therefore, it should be expected that technology is considered a rival product (P. M. Romer, 1990).

P. M. Romer differentiates between knowledge and technology in a way that knowledge is nonrival while technology is rival. This separation makes a distinction between knowledge and technology production. Hence the model is established around three different sectors. The first one is research and development production, in which knowledge is assumed to be entered into the model as an entire stock because of its non-rival nature. The production of knowledge process is related to human capital and existing stock of knowledge. P. M. Romer shows that there is a possibility of knowledge to grow unbounded though he admits the ultimate way to reveal whether it is unbounded or not is not possible with any theory. The novel knowledge produced with this process can have two dimensional benefits: one is in the production of new goods, and the other one is in the increasing productivity of human capital in the research and development sector (Jones & Vollrath, 2013).

The production of goods sectors exhibits a steady-state pattern, as Solow presented in his model, though the research and development sector has increasing returns to scale. The reason for increasing returns to scale in the R&D sector is that human capital devoted to the research and development sector has a marginal value of per capita human capital above the market wage for per capita human capital. That is the way, for P. M. Romer, for human capital devoted to the research and development sector can sustain an unbounded increase in production through an exponential increase in A, which stands for knowledge production (P. M. Romer, 1990). Though research and development sectors have a permanent positive effect on economic growth, there are barriers to devoting more resources to research and development sectors. Romer concludes them with two different features of research. The first one is the positive externalities of knowledge production, and the second one is the monopolistic character of the output of knowledge production (1990). In a monopolistic environment, consumer surplus or social gain, in other words, would be larger than the monopolistic profit, which is a disincentive for research sectors (Jones & Vollrath, 2013).

1.4.4. Schumpeterian Growth Models

Schumpeter put forward the theory that capitalist economies could sustain their existence with the creative destruction way of progress. He expresses creative destruction to describe the introduction of innovations to the market. Older technologies of production

methods are replaced with newer and more efficient ones since capitalism could advance with the destruction of previous methods and products continually while it establishes the succeeding ones (Screpanti & Zamagni, 2005, pp. 263–264). Schumpeter argues that entrepreneurs trigger endogenous growth by continuously transforming the economic structure through technological innovation. This model emphasizes that capitalism is not a static equilibrium, but an evolutionary process in which large firms and competition break down old structures and create new ones in a dynamic process (Skousen, 2021). The endogenous growth models related to this theory are called Schumpeterian growth models (Acemoglu, 2009, p. 458).

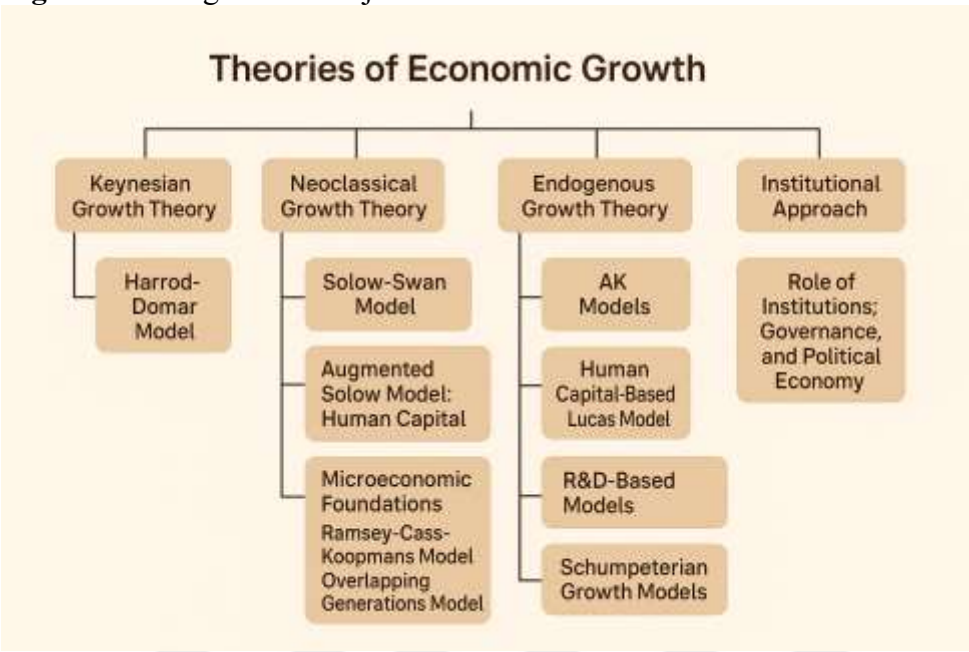
Grossman and Helpman contribute to the research and development-based economic growth models by focusing on the competition between intra-industry, inter-industry, and cross-countries (1991). Their main findings are similar to P. M. Romer's model that technological advancements are at the center of long-run economic growth endogenously. Despite the similarities, they emphasize the importance of the key drivers of innovation. Consumers wish to have the enjoyment of the difference in the variety of products, while entrepreneurs try to acquire quasi-rents by expanding the range of products before they become part of the competitive market. Research activities are needed to generate excludable private knowledge; otherwise, there would be a disincentive generation of public knowledge for innovators.

Aghion and Howitt, on the other hand, directly refer to Schumpeter's creative destruction term to present their assumptions of the economic growth model. They focus on monopolistic firm behavior. Innovation provides quasi-rents to the firm that made it until that innovation becomes obsolete. Successive innovation can stop monopolistic preceding profits for the firm. This continuous challenge can create an expectation that every research and development output will be outdated, which can disrupt the incentive for innovation. Furthermore, the augmentation of research and development processes necessitates the recruitment of highly skilled workers, thereby precipitating an escalation in real wages through the channel of research and development (Aghion & Howitt, 1992). These two negative effects decelerate increasing productivity stemming from research and development activities leading to a stationary state of economic growth between succeeding innovation periods.

1.5. Institutional Approach

Economic growth theories do not capture the income differences across countries well. Even though endogenous growth models make sustained higher rates of economic growth explainable, technological advancement still cannot account for the vast part of growth. Endogenous models show the non-rival nature of technology despite its partly excludable utilization. Distinguishing between physical and human capital can account for some of the sharp income differences. However, the question of why there are huge gaps in human capital and what the determinants of large differences between production factors across countries have yet to be answered (Mankiw et al., 1992). Hall and Jones (1999, p. 92) make calculations to reveal the importance of neoclassical production factors, which shows physical capital contributes 1.8 and human capital explains 2.2 of the 31.7 times difference between the top five richest and poorest country groupings, thus leading us to think of the most important part of the explanation for growth discrepancies underlies the productivity residuals. They assert that the discrepancies in productivity can only be explained by social infrastructure, which consists of institutions and government policies, by relying on their results of analysis that show social infrastructure could account for most of the income differences. Well-established social infrastructure directs individuals to sustain higher levels of education, firms to accumulate higher levels of capital, and create environments that support technological advancements. Favorable social infrastructures are constructed through historical paths and geographical features, which are feedbacked by productive output per worker rise (Hall & Jones, 1999). Along a similar line, Knack and Keefer (1995, pp. 216–217) show that conditional convergence appears significantly stronger in the presence of the introduction of institutional determinants to the equations of analyses, which implies the necessity of an institutional approach in growth studies.

Figure 1.2. Diagram for Major Economic Growth Theories



Source: Own illustration

Neoclassical economics investigates the effect of the inputs of land, capital, labor, knowledge, and human capital in economic performance, but it does not unveil much of the social process that determines the long-period paths. The institutional approach tries to go beyond one-factor explanations by observing and modeling complicated relations between social and environmental factors. In the Neoclassical approach, economics is a theory of choice under the rationality assumption and observed through cost-benefit analysis under the efficient market assumption. At this point, Douglas North put forward that different political institutions and social formations shape consciousness so that choices are eventually affected by those institutions. Likewise, different types of political and legal systems enforce the running of exchanges, distributions, and agreements. Therefore, to understand long-term economic development, it is unavoidable for him to look at the rules of the game (North, 1991).

Acemoglu and the others call the inputs addressed by neoclassical as proximate causes. Proximate causes only the outcomes of economic growth processes. They place the institutions as the fundamental causes of economic growth, which are also the ultimate causes of the proximate variables (Acemoglu et al., 2005). Furthermore, the institutions articulate certain trajectories that differ across countries. These trajectories push countries to move along with certain development ways, which are the situations referred to as path

dependency (Acemoglu & Robinson, 2012). This notion pushes not only politics but also history to be included in economic growth studies.

The core problem that occupies the efforts of the institutional approach is how institutions improve or suppress sustainable economic growth. This approach sees fundamental factors that are needed to achieve the efficient allocation of resources, and the productive activities lie in the incentives or disincentives of institutions. Therefore, the incentives of institutions could be both the motivations for good economic performance paths and the causes of destructive economic performance paths. Disincentives that influence economic growth and development in negative ways give importance to redistribution activities rather than production activities, which could also be debated in the political context of countries. These disincentives are inclined to establish monopolies and oligopolies rather than create competitive markets, as well as consolidate to inhibit the opportunities rather than to improve them (Acemoglu et al., 2005). Politics always matters for economic growth. The political power struggle in economic decision processes is so prominent that even if the authoritarian governments are aware of the way of running economy effectively in favor of the vast parts of society, it still could be undesirable path for them because of the commitment problem of elites (Acemoglu et al., 2005, pp. 39–40).

All in all, institutional economics offers to focus on the institutional differences across countries to understand cross-country income differences. Furthermore, more diversified approaches that try to elaborate broader determinants such as colonial history or cultural norms, location, historical heritage thereby treating growth not only as an economic issue but also as a multidimensional process shaped by the socio-political context. In this way, it has become clearer that differences in development between countries are not only due to a lack of capital or technology, but also to deeper structural and historical causes. After discussing diverse approaches to the question of the sources of economic growth, political context in terms of political instability will be examined in a way that try to follow the institutional approach to contribute to the assessment of cross-country income differences.

1.6. Concluding Remarks on the Chapter

Examining neoclassical models that emphasize capital accumulation, labor, and exogenous technological progress establishes a foundation for understanding growth dynamics. However, their incapabilities in explaining cross-country income disparities and the endogenous nature of technology, paved the way for more complicated approaches. Endogenous growth models highlight the role of human capital, knowledge spillovers, and R&D sectors, thereby enabling to reach insights into sustained growth through endogenized economic processes. Schumpeterian models further enrich this perspective by focusing on innovation and creative destruction as drivers of long-term fluctuated trajectories that oscilate between competitive and monopolitistic environments.

The institutional approach shifts the attention to deeper structural factors behind economic factors, revealing that economic growth is not solely an outcome of economic inputs but a complex interaction of socio-political, historical, and economic insitutional determinants. The evolution of the economic growth theories implies that no single model fully captures the complexity of economic growth. Instead, the combination of proximate causes and fundamental causes shapes diverse growth paths across countries. This multidimensional perspective not only explains why some countries flourish, while others stagnate but also pave the way for further examination of how political instability and institutional frameworks influence economic trejectories in the following chapters.

CHAPTER TWO

POLITICAL INSTABILITY

"An economist who is only an economist cannot be a good economist"

-Friedrich Hayek (attributed to)

2.1. Introduction

Institutional economics argues that economic performance is related to political structures, while political institutions are the key elements that shape economic growth. Political institutions regulate the distribution of power, decision-making processes and the implementation of economic policies. From this perspective, the importance of democracy on economic growth is heavily examined. This perspective propose transmission channels of democracy such that democratic regimes tend to create inclusive institutions that expand individuals' economic and political rights. This encourages economic actors to invest, innovate and engage in entrepreneurial activities by protecting property rights, ensuring the rule of law and reducing corruption. Electoral accountability force governments to use public resources more efficiently and make policies that address the needs of the population. It is widely proposed in the relevant literature that an environment of freedom fosters individual creativity and economic dynamism, so that innovation is an indirect contribution of democracy to economic growth (Przeworski, 2004). However, empirical studies show that the impact of democracy on economic growth is not always linear or positive. Democratic systems can be tempted by short-term populist policies, and electoral pressure can get in the way of long-term reforms. Pluralistic decision-making processes can lead to slower implementation of economic policies, and political polarization can make it harder to implement reforms. Moreover, the high growth rates of authoritarian regimes such as China suggest that democracy is

not essential for economic success. However, growth in these regimes often faces long-term sustainability challenges due to a lack of inclusive institutions. However, there are conflicting findings in the literature on the impact of democracy on economic growth[2]. These contradictions call for a more detailed examination of the relationship between different elements of political institutions and economic growth. At this point, political instability becomes one of the central focus points of the elements of political institutions in revealing the priority of the impact channels of political structure on economic performance. Feng put forward the distinguishing divergence between East Asian and Latin American countries because of the high level of political stability in East Asian countries compared to Latin American countries (Feng, 2003). Addressing the same comparison, Diamond (1990) emphasizes that the economies of democratic countries do not perform better or worse inherently; instead, the policies within any regime type matter. Because democracies can survive with the people's consent to the extent that they maintain efficiency to satisfy the public, democratic regimes depend more on popular legitimacy. This efficiency necessitates political determination to form and implement policies for economic development, which directs us to the importance of the stability of political orders.

Economic activities are the compounded results of input factors like land, labor, knowledge, and capital. The performances of these activities are intensively studied by various economic schools. Though these studies could vastly explain the mechanics and complicated relationship between input factors and economic activities under given conditions, the causes and development of these conditions are still the subjects of inquiry that have not received the required attention (Baran, 1957). Even when a wide range of neoclassical growth factors are controlled for in the growth studies, the growth performance of Latin America and Sub-Saharan Africa remains insufficient to assess under neoclassical analyses, which direct investigations to non-economic factors, namely institutions (Fedderke & Klitgaard, 2006). In the former chapter, the stress pointed out by institutional economists on the circumstances discussed such that the judicial system, private property perception, political regime, political environment, culture, social norms, history, and colonial background, and climate are considered as the factors that shape the

[2] See (Alesina & Rodrik, 1994) and (Doucouliagos & Ulubaşoğlu, 2008) for meta-analysis on the democracy and economic growth relationship studies

economic inputs in the long run. This study will focus on the influence of the political environment on economic activities.

2.2. What Matters More: Stability or Regime Type?

Samuel Huntington initiated an extensive debate on political order by arguing that the political development of democratization may not bring about economic development, contrary to the broadly adopted view. The situations in which political participation exceeds the level of political institutionalization are vulnerable to politically unstable environments. In other words, democratization before adequate political institutions results in countries that are more unstable and vulnerable to coups and other turmoils. Insitutionalization is defined by Huntington as gaining value and stability of organizations and procedures such that its level can be assessed by the autonomous, coherent, complex, and adaptable characteristics. Modernization increases the participation of new social forces in politics and enhances political demands. However, this process weakens the authority of traditional political institutions and complicates the emergence of incoming institutions. Institutions such as parliaments, executive bodies, and political parties are insufficient to resolve conflicts between social forces and to integrate new participants into the system. Therefore, societies should keep their political change in pace with the political institutionalization processes; otherwise, they fail to stabilize their political and economic development (Huntington, 1968).

The arguments of Huntington oppose the view that democracy brings prosperity on the basis of the contention that a politically stable environment brings about economic development. Lipset (1959), however, perceives causality in reverse, such that economic development maintains legitimacy for regimes, thereby providing political stability to those regimes. Sanders (1981) criticizes Lipset's theory as being restricted to Western liberal democracies, though his empirical analysis is not. Kuznets (1973) presents one of the earlier acknowledgments of the importance of political context from neoclassical grounds. He puts forward that economic growth needs to have a stable and flexible political and social environment to be able to resolve conflicts, adapt to changing structures, and promote pro-growth aspects of societies.

Numerous other studies claim that democracy cannot prevent political turmoil itself, while some authoritarian regimes could sustain political stability that attracts foreign investments (D. K. Gupta et al., 1998). Authoritarian regimes can suppress consumption demands to transfer the economic surplus to investment. In contrast, popular considerations and decentralized power groups like labor unions, non-governmental organizations, and media push resource allocation in favor of consumption more. They reject the argument of Lipset (1959) for economic development by putting forth the East Asian cases in which authoritarian regimes can ignore political requests, thereby fulfilling the economic demands of the masses. Rather than having a straight answer to the significance of political regimes, they distinguish between short and long-term, thus asserting that the effect of regime types on economic growth differs according to the term. Democracies could be superior to authoritarian regimes in the provision of political stability in the long run since they have the capability of conflict resolution without the occurrence of political violence in case of demand for political change. However, conflict resolution may not be yielded in the short run due to the possibility of resolution mostly restricted to non-violence in democratic contexts (D. K. Gupta et al., 1998). Feng (1997) reaches a similar conclusion in the relationship between democracy and political instability, stating that economic growth could consolidate the power of authoritarian regimes in the short term, though it can enforce democracy only in the long term.

Przeworkski (2004) argues against the primary role of instability instead of regime type, such that regime instability, rather than the type of regime, influences growth, is logically flawed because political instability cannot be defined independently of political institutions. In democracies, anti-government protests and strikes are normal expressions of dissent, while dictatorships exist to suppress precisely such opposition to secure their power. In democracies, leadership changes occur through elections, while in dictatorships, coups are needed to effect a change in power. He proposes to look at the study of Alesina et al. (1996) as an example, such that it is found that coups hinder growth, whereas regular electoral transitions do not in this study. This does not prove that instability itself affects growth, but rather that political events have different meanings under different regimes. In dictatorships, any perceived threat to the regime disrupts the economy, whereas government changes and public demonstrations are expected occurrences with minimal economic impact in democracies (Przeworski, 2004).

Another motivation for studying political instability is related to the debates on consistency within regimes. Gurr disconfirms the conventional approach that democracies are more durable, depending on his study of regimes between 1800 and 1970. Consistency is the most important priority in reaching more durable regimes, rather than the type of regime. Thus, mixed democratic polities exhibit more unstable political systems than autocratic ones (Gurr, 1974). Eckstein elaborates on consistency at this point, stating that coherence between different levels of authority patterns, such as social and governmental units, is the key to durability and high political performance (Eckstein, 1969). Gates and others tried to expand the conclusions of Eckstein and Gurr by analyzing polities that survived during the last two centuries. Their findings support the idea that consistency matters more than regime types. Institutional consistency between executive recruitment, political participation, and constraints on executive dimensions of authority ensures stability in political systems. Nevertheless, inconsistent systems that mostly refer to the regimes that lie between democratic and authoritarian polities are observed as more unstable (Gates et al., 2006). Accordingly, Bardhan (1990) asserts that the matter is the securing of the insulation of the decision-making processes from the short-term political demands of interest groups, rather than the regime types. Diamond (1990) expands this concern with the trade-off between representativeness and governability. Democratic regimes are expected to become accountable to the public as well as representative of diverse aspects of societies. However, governments should, at the same time, be autonomous from the influence and particular interests of powerful groups.

In a similar vein, Auvinen (1997) carries out an empirical analysis that presents a U-shape association between regime type and political conflict. Absolute authoritarian regimes have the capability to control rebellions, whereas the tolerance of democratic regimes makes space for reform demands and protests. On the contrary, semi-repressive regimes can neither discourage rebellious actions nor have effective reformist demands, which makes them the most politically unstable system between authoritarian and democratic regimes.

Przeworski and Limongi (1993) summarize the polarized regime debate from three angles: property rights, immediate consumption, and autonomy in decision-making. Democracy proponents claim that the sovereign would probably struggle to alter the legal

infrastructure of property rights so as to take more benefit from them. Przeworski and Limongi argue against this claim that property rights are considered to be threatened not only by the state but also by market actors. Hence, individuals -or voters in other terms- can alter the allocation of resources in a way that they can access more resources. Therefore, relating growth to democracy is not justifiable, although developed ones are mostly democratic countries.

The argument of immediate consumption is heavily put forward against democracy. The assumption based on the argument suggests that voters want to consume immediately with higher intertemporal discount rates, thereby reducing the return to capital and tax income. Hence, both public and private investment rates go down, thus slowing down economic growth. Though these arguments seem to favor authoritarian regimes in terms of postponed consumption, the frequently assumed forward-looking dictator who could direct the funds to projects that pay off in the long term is not guaranteed at all (Przeworski & Limongi, 1993).

Thirdly, the arguments that are especially raised in comparative studies concentrate on the comparison that state autonomy is maintained under authoritarian regimes better than under democracies. Interest groups and individuals seek their own benefits so that the outcomes of economic activities become suboptimal outcomes, bearing huge amounts of deadweight losses[3]. Those groups put pressure on the state both to gain more from redistribution processes and acquire rent profits. The establishment of state authorities that are isolated from these redistributionist interest groups enables states to collect taxes more efficiently, provide public goods, and enforce short-term costs of economic investments on the public more easily. Counter-arguments to authoritarian state autocracy are centered on private activity and input supply. Governments under democracy ensure the rule of law; hence, private actors are protected against appropriation threats. Further, inputs that are not possible to access within the market can be provided by those governments (Przeworski & Limongi, 1993).

[3] Neoclassical understanding of deadweight loss is considered as losses in markets related the failure to achieve Pareto optimum equilibrium due to taxation, monopoly, externalities, price controls, or similar market failures. See (Harberger, 1964) for detailed mathematical solutions for deadweight losses through optimization methods.

Overall, Przeworski and Limongi (1993) emphasize that opponents of democracy fail to present solid motivations for authoritarian regimes to seek optimum output, whereas opponents of the superiority of authoritarianism fail to show that democratic governments could establish faster growth. Thus, the growth problem cannot be resolved according to the regime type. They analyze 18 studies, concluding that the field shows the ambiguity of the impact of regime type on economic performance with contradictory results.

From an economic perspective, Alesina and others also cannot find a significant difference between democracies and authoritarian regimes regarding economic growth, which led them to examine the differences in political instability. There is a trade-off between those regime types. In democracies, political competition can channel governments to seek profitable economic policies for only the short term. In contrast, authoritarian regimes can be more insensitive to the pressure of short-term benefits. On the other hand, it is possible in authoritarian regimes to stick with misconducting economic policies persistently for a long time, while democracies have more room to maneuver to turn away from wrong policies (Alesina et al., 1996). They introduce democracy to their empirical model to see the relevance of their hypothesis. The quantitative analysis also supports the idea that democracy is not superior to dictatorships regarding economic growth. Alesina and Rodrik explain the reciprocal tradeoff between democracies and authoritarian regimes with growth motivations. Redistributive populist policies are considered to be an integral part of democracies, but non-democracies may account for the stability of their regime to be dependent on plausible growth rates. Thus, an authoritarian regime can pursue technocratic and growth-maximization-driven policies (Alesina & Rodrik, 1994).

Along the same line, Barro stresses the ambiguity of the effect of the democracy-dictatorship dilemma on economic performance. Despite the fact that democracy can foster economic rights that provide an environment for better economic performance, it can also lead executives to implement populist policies that hinder the planning of long-term economic policies. On the contrary, authoritarian regimes have bidirectional capacities on economic performance such that they can bring forth economic freedom if they seek rapid economic development. In contrast, it is also possible that they can pursue

their self-economic interest at the expense of their countries' economic future (Barro, 1996).

The compatibility of regime type becomes more essential when the economic performance is thought around development instead of growth. Rao (1984) argues for the difference between them, such that growth can be achieved within the existing political context of developing countries, while economic development requires structural reforms and determined policies because of the improvements in education, health, and income distribution as conditions for development. Economic development necessitates heavy strategies that involve short-term sacrifices. However, democracies are incapable of implementing harsh policies, solving existing inequalities, controlling the population, and external intervention, hence complicating the establishment of independent development strategies. Accordingly, Diamond (1990) describes the nature of democracy contradictorily requires having a conflict between diverse parties and groups to the extent that they can reach a consensus; otherwise, the uncontrollable conflict hampers economic development. The concerns of Rao (1984) resemble the study of *Kicking Away the Ladder* study of Ha-Joon Chang, in which protectionist economic policies are conceived as inevitable for development, unlike the imposition of neoliberal premises for economic prosperity, like free trade, privatization, and market liberalization (Chang, 2002).

Based on the accounting of previous analyses on the political sources of growth, Brunetti and Weder (1995) argue that the studies show inconclusive results for the link between democracy and economic growth, whereas the significance of the link between political instability and growth is corroborated by many despite the lack of robustness in their meta-analysis study. The analysis of Aisen and Vega (2013) also goes further by suggesting that democracy has a small but negative impact on economic growth, while political stability has a positive one. Further, isolated analyses under different regime types show no significant difference in the effect of political instability, since the interaction of political instability and regime type shows no significance. For Feng (1997), the contradictory conclusions of the literature reveal that democracy and political instability should be introduced to the equations simultaneously. His findings also support the idea that democracy has no significant direct effect on economic growth, while it can indirectly influence economic growth by hindering political instability.

2.3. Political Stability

Political instability has received enormous attention in the investigation of economic performance determinants since the institutional approach has been respected in economic research methodologies. This study will follow the same perspective to analyze the impact channels of political instability. The definition and the measurement according to that definition will be elaborated to make the analysis more concrete at first.

The relationship between political instability and the economy will be examined through quantitative methods, aside from the theoretical background. In order to quantify the political instability, it is inevitable to frame the concept comprehensively. Ake defines political stability as the regularity of political exchanges of individuals or groups within a political system. Political systems expect citizens to abide by the boundaries of the behaviors of relevant political systems (Ake, 1975, pp. 273–274). The question then arises of what the boundaries of behaviors for actors in a specific political structure are. It depends on the particular laws and custom patterns of societies. Ake admits that the political exchange behaviors that violate the boundaries are blurry and time-varying. Regularities and irregularities belong to certain political structures such that irregularity boundaries differ temporally and spatially.

Similarly, Gurr addresses stability as remaining the patterns of political authority over a long time. However, the durability of the political system should be distinguished between the persistence and adaptability aspects. While persistence refers to the longevity of the political system without getting into any turmoil, adaptability indicates the capacity of the political system to adapt to a changing environment gradually (Gurr, 1974). Feirabends emphasize aggression as a source of political instability in a way that instability is the degree of aggression by groups, individuals, or officeholders against other groups, individuals, or officeholders. Similar to Gurr, they distinguish that sufficiently coercive power or a participatory society could handle the frustration of a group or individual; otherwise, rising aggression leads to political instability (Feierabend & Feierabend, 1966). All in all, the measurement of political instability requires the inclusion of several political instability criteria in order to comprehend its definition.

Sanders (1981) offers to treat political stability as not the opposite of social or political change but as the relative absence of destabilizing impact upon political systems or events. This definition brings about some objections to the existing approaches. First, he disagrees with Lipset's dichotomic approach, dividing countries into stable and unstable ones. The frequency approach overcomes the dichotomy by counting the destabilizing events, but it fails to recognize the different weights of the same categorical events according to the context it occurred, such as a demonstration could be a part of the political order in a country, whereas it can have disruptive effects in another country. Additionally, uncertainty should be entered into the political instability measurement since future destabilizing developments threatening a government or regime's survival that are foreseen signify instability, besides actual events that occurred before.

The struggles to define political instability are challenged from various perspectives. Margolis (2010) stresses the one-sided dimension of conceptualization of political instability in a way that political instability was treated as only related to the state, albeit society is as vital as the state with regard to the boundaries of political instability. Moreover, stability was considered to have been achieved if it maintained responsibilities like security, public services, and opportunities. This functionality view disregards traditions of non-state public services, powerful local authority orders, non-democratic orders, etc., which brings forth a Eurocentric understanding of the concept of stability. Stability, then, should be treated as the correlation of formal roles of authority and informal roles of customs and society (Margolis, 2010). Keeping in mind this challenge unsettles the boundaries of political instability, this study will attempt to examine the effect of different combinations of political instability indicators to minimize the Western-centered view of political stability.

2.3.1. Manifestations of Political Instability

Political instability studies elaborate on a vast number of dimensions of political instability. Political instability could be broadly addressed as political violence among groups and individuals to seize the decision mechanisms of the redistribution of incentives in a political system (Morrison & Stevenson, 1971, p. 348). Political conflict and violence are mostly confused, while conflict is an ordinary phenomenon of societies, in contrast to political violence. They justified their argument that quantitative studies

operationalize variables to depend more on statistical explanation rather than pursuing analytical needs. Keeping in mind this criticism for further theoretical explanations, this study will embrace the understanding that conflict and violence are part of political instability. In a similar way, Alesina and Perotti (1996, pp. 1205–1206) distinguish political instability between social unrest and executive changes. In order to comprehend the social unrest, executive changes better be conceived as a propensity rather than an actuality.

Political instability types will be divided into categories in two ways based on their origins and patterns. Morrison and Stevenson made the distinction of political instabilities based on their origin. Political instability can arise from elites, communities, or mass movements. Elites compete to seize the mechanisms of redistribution of incentives. The forced resignation of elite officers, chief executive removals, suppression of the public, coup d'etats, and other types of conflicts between elites bring about an increase in political instability. Communities that are formed based on religion, ethnicity, region, or ideology could demand higher autonomy, total independence, or a share in the ruling. These demands mostly result in civil wars, communal conflicts, and violence of similar types. Mass movements stem from increasing disturbances of the masses against the elite class. In order to seize the power of the ruling class, mass movements could bring about assassinations, riots, strikes, revolutions, and similar kinds of mass-related turmoil. These conflicts, originating from diverse motivations, could hinder or encourage each other (Morrison & Stevenson, 1971, pp. 348–354).

Some studies divide political instability into sub-categories based on patterns or behaviors rather than origins. Hurwitz classifies political stability perceptions in the literature into five categories which political stability as: 1) the absence of violence, 2) ruling endurance, 3) legitimate-perceived constitutional regime, 4) non-presence of structural change, and 5) multilateral societal attributes (Hurwitz, 1973). The first category of the absence of violence focuses on the aggression and violent behaviors of individuals, groups, or states to other parties of society. The second approach that treats political stability as the endurance of governments or other types of executive longevity addresses instability as the displacement of executives or regimes frequently. Though longevity does not reveal a comprehensive counterpart for instability, it is employed in certain quantitative studies

due to the easiness of measurement of cabinet or executive changes. The legitimate-perceived constitutional regime approach considers the public to approve the rights, outputs, and demands of the existing political system. The boundaries for this approach are quite arbitrary and intangible in comparison to the longevity of the executive approach. Non-presence of structural change refers to the continuity of existing regime types over time. The perception of multilateral societal attributes basically combines different attributes of political instability to comprehend the diverse dimensions of instability. Despite the measurement complexity of the multilateral approach, political instability needs to be assessed relying on composite aspects of it.

Goldsmith (1987) presents a rather alternative distinction between political instabilities with regard to the intertemporal condition of stability within countries. Unstable countries that exhibit instability also for their future position are labeled as chronically unstable, while the reverse situation is called consistently stable. The countries showing a trend towards instability are destabilizing countries, and the ones that show otherwise are labeled as stabilizing countries. This distinction makes coherence between confusing results of the linkage of instability and growth, such that chronically unstable states could perform slow growth. In contrast, stabilizing states could exhibit a rapid growth pace, despite both being considered unstable states at the beginning of their growth path.

2.3.2. Sources of Political Instability

Hibbs elaborates on the sources of political violence, supporting his claims with quantitative analysis such that rapid urbanization and internal migration could augment social frustration due to the fact that investments fail to keep pace with the change and fueling unemployment, expansion in education level could induce discontent in society if it is disproportionate to the economic development level, ethnic, linguistic and religious diversity may stimulate civil disobedience if they are excluded from the social and economic values, imbalance in income distribution especially with exclusion of some groups, pressure from political power. He also pays regard to the external powers that intervene in countries through coups, internal conflicts, and neighboring crises.

The more controversial findings of the study of Blanco and Grier reveal that ethnic diversity, income inequality, and urbanization have a non-linear relationship with

political instability, such that ethnic diversity and income inequality lower instability to some point; only after that point do diversity and income inequality have a destabilizing effect on Latin American countries. Urbanization, on the other hand, raises political stability until some level; only after that does it contribute the instability, which shows the possibility of relevance for both of the counterarguments which one considers urbanization as a facilitator for the centralized state power, while the other view put forward the necessity of urbanization for enhanced infrastructure that is challenging for populated areas bring forth discontent among public (Blanco & Grier, 2009). Cukierman and others (1992, p. 539) find that urbanization extends political polarization as well as increases the underground economy, thereby leading to inefficiency in tax collection. Nel (2003, p. 627) also tries to combine opposite arguments, concluding there is a curvilinear relationship between income inequality and political instability with an ambiguous effect across countries and regions.

The effort of reconciliation of contradictory findings on the impact of urbanization made by Sanders is consistent with the non-linear explanation of Blanco and Grier. Sanders distinguishes between static and dynamic interpretations of the relationship between instability and urbanization. Lipset argues that urbanization results in greater political stability, whereas Feierabends claim the opposite, which actually is consistent with each other, such that Lipset interprets the relationship dynamically in a way that a high level of urbanization means a low rate of urbanization, leading to a politically stable environment. On the other hand, a low level of urbanization yields high rates of urbanization that heighten political instability, which is the static interpretation of Feierabends (Sanders, 1981). Auvinen (1997) emphasizes the bidirectional impact of urbanization on political disturbances, such that it intensifies political protest by mobilizing resources of political groups, whilst it deters revolutionary collective action as well as irregular government changes.

The emphasis of Goldsmith (1987) is supported by the quantitative analysis of Blanco and Grier (2009), which addresses the underlying reasons for the persistent instability in Latin America. They collect possible political and economic factors that could destabilize countries. Macroeconomic factors of inflation, government spending, or investment rates contribute significantly to instability, except trade openness, while political factors do

much more. Regime type, ethnic diversity, and political factionalism have impacts on political instability, while regional instability does not, contrary to the hypothesis of this study. The articulation of political instability is also tested by Berthélemy and others in a different way, such that hardening of the regime through bans, prosecutions, executions, police violence, propaganda, censorship, state of emergency, etc., spurs political instability and vice versa. Nonetheless, softening of the regime, like improvement of political inclusion, lifting of bans, etc., has no positive impact on political stability. The difference in the impacts of opposite policies may lead regimes into a vicious circle of politically unstable environments (Berthélemy et al., 2000, pp. 13–14).

2.4. Measurement of Political Instability

When determining the relationship between political and economic activities, measuring political activities is more difficult than measuring economic activities, especially macro ones (Carmignani, 2003). Therefore, measurable areas of politics are examined in an attempt to evaluate the effect of the political environment. Because of the lack of an objective measure of political instability, the studies addressing the question employ various measurements as indicators of political instability.

2.4.1. Subjectivity of the Political Instability in the Literature

Measuring political instability is inherently subjective due to the multidimensional nature of the concept and the different methodologies used. Indicators vary across broad social factors such as changes in government, violent events such as coups and revolutions, ethnic divisions, and ideological differences. This heterogeneity reflects different theoretical perspectives and contextual priorities, leading to a lack of consensus on a standardized measurement. As a result, the subjective selection and weighting of these indicators can significantly influence empirical findings, emphasizing the need for transparent and inclusive measurement frameworks in the research related to the topic of interest. In this section, different approaches to measurement will be elaborated.

At this point, there are many economic analyses in the literature on different proxy variables for political instability. De Haan and the others consult the frequency of government change and the number of parties in government as indicators of political

instability (De Haan et al., 1999). Londregan and Poole (1990) and Blomberg (1996) also used irregular government changes as indicators of political stability in a similar way, while Blomberg inserts economic growth and executive adjustments additionally as indicators of political unrest. Londregan and Poole emphasized that coups are rather more accessible information to the contrary of riots, political violence, etc., which could be covered up from the international arena by authorities. Thus, they stuck to the successful and failed coups as an indication of political instability. Although Gurgul and Lach (2013) apply changes in government as an indicator of political instability, they distinguish major government change from regular government turnovers in a way that if the incoming head of government is affiliated with a different party from the previous one, the situation represents major government change. They emphasize that this definition makes the account of government change insensitive to subjectivity, as well as investors take into consideration the turnover of prime ministers for the health of the future of their investments.

Barro, who has done much work on political instability and economic growth, measured political instability on the basis of revolutions, uprisings, and political assassinations in one of his studies (1991). Again, Levine and Renelt (1992) and Fosu (1992) included revolutions and coups as proxy variables for political instability in their studies. Similarly, Alesina et al. (1996) and Barro and Lee used war data in their studies examining economic growth, while Barro and Lee also (Barro & Lee, 1994) proxied revolutions as the probability of political instability. The intense usage of revolutions and coups as proxies for political instability jeopardizes the representation of the multidimensionality of political instability. The reason for the intense usage of these indicators may stem from the limited access to the relevant datasets that have been recently developed around that time by Barro and Wolf (1989), Gupta (1990), and the World Handbook of Political and Social Indicators, which are solid but limited measures of political indicators at that time.

Casualties related to violent events are considered representative, so that Gupta et al. (1998) applied political deaths for the employment of the political instability indicator since they highlight the frequency of death is much higher than other possible indicators, which enables them to have more representative data for violent dimensions of political instability. Mauro (1995) inserts the indicator of relationships with neighboring countries

into the index for political instability, averaged indices of institutional change, terrorism, stability of labor, institutional change, social change, and opposition takeover. His composition reflects business concerns such that labor stability, terrorism, and neighboring relationships are directly related to investment decisions.

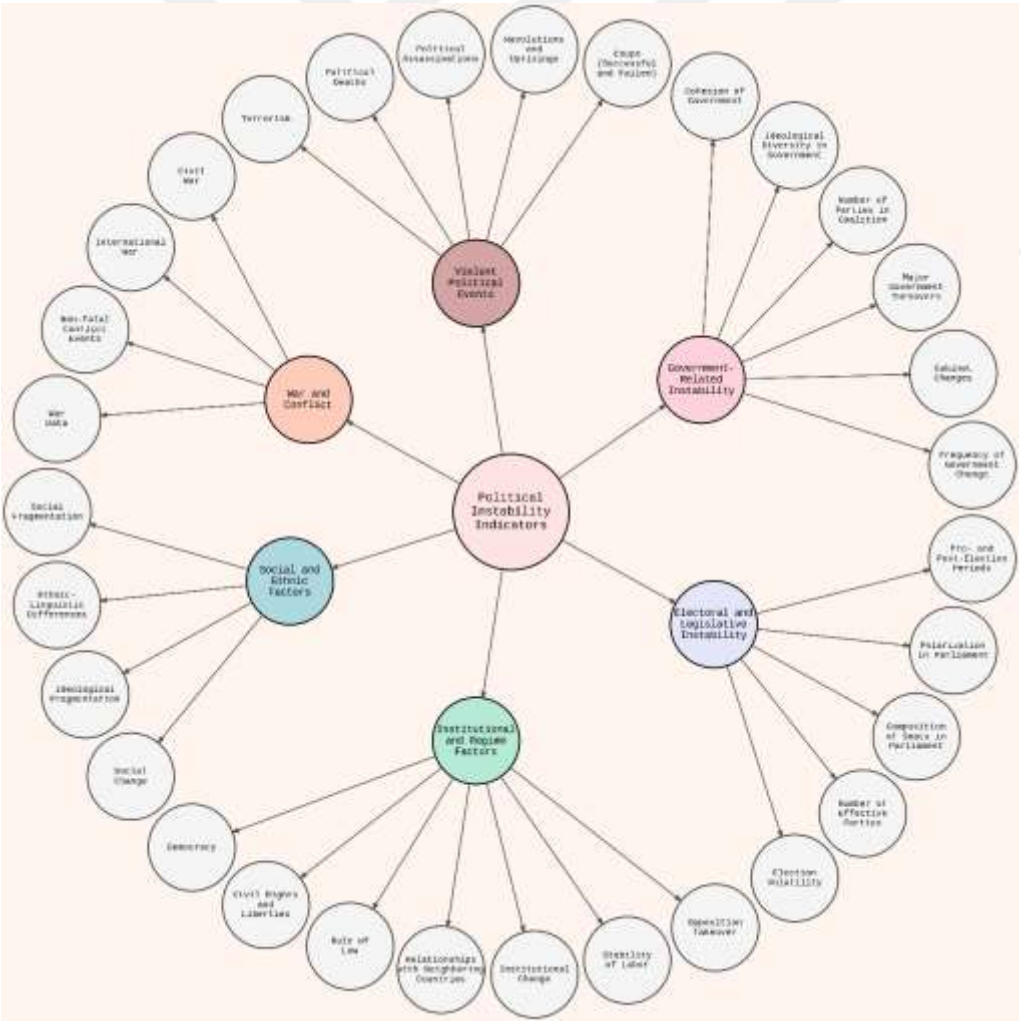
In addition to war and coup, Sala-i Martin (1997) inserted civil rights, civil liberties, and rule of law indicators into his political index. Aisen and Vega (2013), who also preferred to evaluate through a government structure, used cabinet changes as an indicator of political instability. Some studies have tried to measure political instability through the diversity of social structure. In this context, Annett (2000) shows in his study that social fragmentation and ethnic-linguistic differences increase political instability. His political instability index is combined with societal unrest, as well as government and legislative crises, by employing factor analysis. Carmignani (2001) used ideological fragmentation as an indicator of political instability with a similar approach. Contrary to the study of (Alesina & Rodrik, 1994), in which they asserted that growth is irrelevant to regime type, Alesina and Perotti (1996) preferred to introduce democracy to their political instability index.

Rather than governmental and social changes, civil war, international war, and non-fatal conflict events are investigated as being measures of political instability in some studies, like Polachek and Sevastianova (2012) and Murdoch and Sandler (2004). This introduction could be interpreted as an indirect effect of regime type on economic growth, considering the fact that they found a significant negative relationship between political instability and economic growth. Further, they justified their choice with the hypothesis that dictatorships can conceal some information about assassinations or political violence events; thus, the democracy variable can mitigate the under-reporting problem.

The literature shows that the extent of political instability, along with its definition of itself, is rather debatable, especially with the aspects concerning economic processes. Brunetti (1997) classifies the linkage of politics and economic growth according to different aspects of political systems. The meta-analysis of Brunetti covers a wide range of the links between politics and economics, which shows that democracy has no consistent, commonly held effect on economic performance. The government instability, regime type, and political violence studies present mixed and non-agreed-upon results for

the linkage of politics and economic performance. However, policy volatility and subjective political measures that are evaluated by private agents or scholars have more concrete results for the linkage. Brunetti concluded his meta-analysis in the way that the predictability of the political environment is the most crucial factor for economic agents, so political instability measurements perform better in assessing their impact on economic performance if they comprise volatility and discretionary state intervention of political execution. Aside from the emphasis on the division of political instability, Butkiewicz and Yanikkaya (2005) also warn about the possibility of mismeasurement errors of political events due to the high level of repression of manifestations of destabilizing events in low-income and less democratic countries in the study, which they find contradictory results for the linkage between political instability and economic growth.

Figure 2.1. Multidimensionality of political instability



Source: Own work

As mentioned above, some scholars focused on political instability as a phenomenon around the government and the execution. Carmignani's study (1999) exemplifies this approach by establishing an index for political instability intensely based on cabinet and legislature indicators. The wide variety of indicators related to cabinet consists of the share of seats held by the coalition, number of parties in the coalition, probability of a party to be a part of the next government, total share of opposition, ideological diversity, duration of cabinet, compatibility index which is the share of votes divided to share of post. On the legislative side, similar numbers related to parliament have been added to the index. The understanding of political instability is rather different in Carmignani's works, such that it intensively focuses on the instability within the regime in terms of Jong-a-Pin's divisions. His event history analysis of the indicators revealed that the higher the ideological diversity, the higher the polarization in parliamentary, and the higher the turnover of executive positions, the shorter the lifespan of a government.

The governmental approach is quite extended by Bussiere and Mulder (2000) in a way that they treat instability comprising pre- and post-election periods of parliaments and governments, which are number of effective parties that measure the polarization and composition of seats and power in parliaments, cohesion of government that measure the strength of the coalition of ruling governments, election volatility that refers to the alteration of votes for parties between elections, and periods of elections (Bussire & Mulder, 2000). Although their method is quite quantifiable, the extent of political instability they embrace represents only certain electoral and governmental dimensions of political instability.

2.4.2. Multidimensionality of Political Instability

The concept of political instability discussed above signifies the multidimensional nature of itself. It can stem from political party inflation, mass disturbance, lack of rule of law, geopolitical factors, military intervention, migration, regime types, ethnic, religious, or ideological fragmentations, etc. Sanders (1981) categorizes destabilizing behaviors as changes that are toward a community, government, or regime and challenges that seek to affect a change in those entities. According to these categories, he proposes regime change, government change, violent challenge, and peaceful challenge indicators to compose a comprehensive political instability index. Consistent with what Sanders has

offered as the dimensions of the concept, Jong-A-Pin differentiates political instability between the instability of a political regime, instability within a political regime, mass civil protest, and politically motivated violence. Though some interchangeable usage of these dimensions could be noticed in different studies, they could have separate impacts on economic growth and other economic performance indicators. The instability of a political regime brings forth deterioration of the economy, while instability within a political regime could actually lead to a more stable economy if instability originated from democratization (Jong-A-Pin, 2009).

Similarly, Klomp and de Haan (2009) produce four different dimensions that are: (1)-*aggression*, which corresponds to mass violence; (2)-*protests* with various motivations; (3)-*regime instability*, which is related to durability and constitutional changes of regimes; and (4)-*government instability*, that are carried out by factor analysis on different indicators of instability. Brunetti's government stability (1997) concept has a similar extent to the instability within the political regime of Jong-A-Pin, along with similar results in investigating the impact on economic performance. Though democracy is another question for economic prosperity, studies focused on the multidimensionality of political instability show various impacts of the dimensions. Butkiewicz and Yanikkaya (2005) carry out correlation tests on political violence, government-related, and social instability indicators, in which they conclude that the dimensions measure different aspects of socio-political instability since the tests they conducted exhibit a low correlation between dimensions.

Along with the same line of Jong-A-Pin (2009) and Klomp and de Haan (2009), Brunetti and Weder (1995) make distinctions between political variables to reveal if there is any systematic difference between different types of instability factors. The literature heavily focuses on the deteriorator impact of instability on investment decisions. The election processes may not alleviate the economic uncertainties unsettling investors, since democracy studies mostly bring about inconclusive results. Political instability, on the other hand, shows more perceptible results due to the measurement capacity of uncertainties related to economic activities like coups, revolutions, etc. Nevertheless, neither of the political variables can fully cover the uncertainties that investors try to avoid. They suggest generating indices that can capture the degree of discretionary state

intervention, since the most essential determining factor for investment decisions is the predictability of the consequences of their economic activities. Some countries like Thailand can sustain economically attractive environments even though they have witnessed several destabilizing political events like coups and riots. These concerns need to be taken seriously in which dimension of political instability would be handled to assess the growth affecting variables.

The contradictory findings in the literature directed Feng (1997) to make distinctions between types of political instability. Irregular political changes, major government changes, and minor government changes should be separately introduced to the equations because of their diverse impact potential on economic growth. Irregular changes indicate an alteration of the regime that corresponds to the instability of the political regime concept of Jong-A-Pin. Major government changes represent an alteration in executives and parties without having a drastic change in the political order, while minor government changes refer only to political adjustments that do not shake the continuity of the governance.

Similar to this distinction, Campos and Karanasos (2008) divide political instability into two categories, one of which is *formal*, and the other one is *informal instability*. Formal instability refers to the changes within the regime through legal elections and constitutional changes, while informal one points to disturbing events out of political order, such as assassinations related to politics and general strikes. In an earlier study by Campos and Nugent (2002), they made very similar distinctions one is severe or upper-bound instability that corresponds to informal instability, and the other is moderate or lower-bound that corresponds to formal instability. Though Fedderke and Klitgaard (2006) have two different types of political instability, they make the distinction based on the threatening nature of the political events, such that revolutions, coups, and constitutional changes refer to regime-threatening instability, whereas politically motivated strikes and riots are not threatening in terms of instability dimensions. Ozler and Tabellini (1991) make similar distinctions, as formal ones are part of political instability and informal ones are political polarization. While Campos and Karanasos recognize both as dimensions of instability, Ozler and Tabellini analyze political polarization as a separate aspect of regimes. Therefore, riots, demonstrations, sanctions,

strikes, political violence, and assassinations are not considered as part of instability. Taking these events as dimensions of political instability would be concordant with most of the literature, whereas polarization has been seen as an ideological variety of the legislature[4].

Multivariate dimensions of political instability necessitate the creation of an index, as has been done in some studies. Gyimah-Brempong and De Camacho (1998) emphasize the vitality of creating a comprehensive instability index rather than relying on some univariate dimensions, which they disapprove of the employment of limited proxies as being "elite instability" that narrowly frames the notion. Prolonged secession movements can have a more devastating impact on economic performance than coups in this sense. Further, they criticize even the multidimensional approaches by applying subjective weighting methods based on the perception of the significance of each dimension. Hence, they conduct principal component analysis to reach an index weighted by statistical methods. Fosu (2003) also chose the elite political instability index by defending that the elite type has the possibility to show dissimilarities more explicitly among Sub-Saharan African countries.

Apart from the distinctions made based on the characteristics or legality, Campos and others (1999) divide the political instability dimension according to its sources, which one is external, and the other is internal. *External political instability* refers to the destabilizing events that happen to a country by external forces, which is proxied by utilizing war and bordering data, while *internal political instability* fluctuates because of the sources that the host country has, such as coups, rebellion, civil war, and years in power of executives. They argue that the contradictory findings on the relationship between political instability and economic performance indicators can be resolved by means of this distinction, such that external and internal types of political instability have diverse directions and magnitudes of impacts on investment. Paldam (1998) has a more augmented version of this distinction with four dimensions of political instability that are stability of the government that defines ruling for a full election period, stability of the political system that refers to the change of power as occurring according to

[4] see (Carmignani, 1999)) or ethnic fragmentation of society (see (Easterly & Levine, 1997)

constitutionally, internal law and order, and external stability that shows the contestation of borders of a country.

Considering the various attempts to frame the concept of political instability, six separate dimensions from which political instability originated could be put forward: war and conflict, violent and political events, government-related instability, electoral and legislative instability, institutional and regime-related instability, and social and ethnic factors-related instability. Each dimension has several branches that can be observable as potential sources of political instability[5]. The complicated, multifaceted, and subjective measures of political instability can both provide opportunities to obtain proxies capturing the magnitude and direction of political instability and complicate assessments due to an irrepresentative choice of dimensions. Therefore, it is indispensable to utilize comprehensive measurements of political instability.

2.5. Regional Political Instability

Economic growth debates evaluate the role of geography in economic development against neoclassical growth models, concluding that neglecting spatial characteristics can lead to analysis errors. Spillover effects between neighboring countries can either support growth through knowledge, institutions, human capital, and trade, or damage it through negative events such as civil war. While the direct impact of geography is limited, its indirect impact on institutional quality is important. Institutions are shaped by colonialism, historical circumstances, and neighborhood relations. The distribution of economic activity is determined by the interaction of centripetal and centrifugal forces. Neighborhood affects economic growth by facilitating the diffusion of economic and institutional policies, but mobile factors such as human capital can lead to negative spillovers due to competition.

2.5.1. The Importance of Geography in Economic Growth

The controversial arguments on fundamental causes of economic growth highlighted the arguments that link geography to economic development, opposing the basic assumptions of neoclassical growth models. Temple (1999, pp. 130–131) points out that the

[5] Figure 2.1 can be revisited to go over the dimensions formed based on various studies

accounting of growth studies may suffer from error correlations due to the omission of spatial features. Thus, spillover effects across countries that were presented by some studies may have been mismanaged by the omitted variable bias problem. Coast accessibility of countries, navigable rivers enabling transportation to open waters, and endowment of natural resources, as well as climate-based factors like agricultural productivity, fertility, temperature, and disease-producing tropical environments, are considered influential on economic development. Gallup et al. claim that the counterexamples of the growth-dragging effect of landlockedness, as seen in Switzerland and Austria, could be explained by the bordering of those countries to well-developed European countries (Gallup et al., 1999, p. 181). The significance of the spillover effect is made by Audretsch and Feldman (1996) on the microeconomic scale. The study confirms that innovation clusters geographically in R&D-intensive industries, but not exclusively because of manufacturing concentration. Instead, localized knowledge spillovers, skilled labor, and university research play a more decisive role in shaping regional innovation dynamics. It emphasizes the role of knowledge spillovers, particularly in R&D-intensive industries, and how these externalities shape the spatial distribution of economic activity.

Considerable refutations have been made to the theses of the priority of geography for long-term economic prosperity by giving counter-examples. Acemoglu et al. (2002) challenged geography as the primary source of divergence between countries by highlighting examples of the reversal of prosperity of countries over time, in which India and Central America get impoverished in contrast with the case of North America or Australia. They also suggest distinguishing the geography hypothesis between time-variant and time-invariant to acknowledge the changing effects of geography. They reach the conclusion that geography does not matter much, even when the time-variant geographical characteristics are taken into account. Instead, institutional quality that differs heavily according to the variations in the colonialist strategies determines the divergence and convergence between countries. Hall and Jones support the idea of introducing geography into growth studies by incorporating distance to the equator variables into their analysis. Distance to the equator represents the geographical aspect of developed countries because colonialists settled in unpopulated areas that are distant from the equator. Moreover, they are inclined to settle in similar climate zones that they are

familiar with, which again are far from equatorial zones. These two factors, for them, are fairly plausible reasons for developed economies to signify the correlation between distance from the equator and economic prosperity (Hall & Jones, 1999).

Rodrik et al. (2004) try to combine the controversial fundamental causes of economic growth, which are economic integration, geography, and institutions, to find out if there is any way to reconcile the conflicting hypotheses. Their analysis shows that the significance of institutional quality for income level surpasses the effect of geography and economic integrity. Though they assign a weak direct effect of geography to economic performance, they acknowledge the importance of the indirect effect of geography on income through its impact on institutional quality. The prevailing narrative of colonialism does not account for plenty of non-colonized countries; it is, therefore, imperative to address exogenous elements determining the quality of institutions to reveal the indirect fundamental causes. They admit that the difference in institutional quality arises from geography, historical paths, politics, and other initial conditions, which are possible indirect causes of economic advancements (Rodrik et al., 2004).

Another reconciliation effort is made by Krugman between these two approaches. He distinguishes the explanations made for the long-term growth as rather the ones that are sticking on the geographical grounds as a story of predestination, as implying a deterministic path for the economic performances of countries, or those relying on the power of historical momentum, as a story of chance. Instead of both, he proposes that the interaction between centripetal and centrifugal forces determines the distribution of economic activities across the regions. Market size effects that refer to the attractiveness of large markets for producers, external economies that refer to the spillover of knowledge due to the producers being close to each other, and thick labor markets in which both employers and labor suppliers match easily are the major centripetal forces that enable economic activities to concentrate in certain areas. On the other side, immobile factors like land, natural resources, land rents, and negative externalities like traffic, overcrowded cities, and pollution are the major centrifugal forces that inhibit concentration and push economic activities to other areas. The interaction of these forces defines the distinct spatial setting of economic activities. Thus, certain geographical characteristics of regions

and historical particularities play a role in the disparity between regions and countries (Krugman, 1999).

Abreu and others (2005) make a useful distinction for geographical features by introducing absolute and relative location. Absolute location refers to being at a location that has certain characteristics like latitude, climate, topography, natural resources, temperature, distance to coastal areas, belonging to a continent, whereas relative location refers to being somewhere that is close or distant to specific locations, countries, or unions or contiguity. Spatial heterogeneity arises from variances in the growth parameters across countries, thereby signifying the absolute location notion, whereas spatial dependence arises from dependence on the growth observations across countries, signifying the relative location notion.

Aside from the climate, ecology, and location of countries, the regional aspect of countries will be addressed as a spatial condition in this study to contribute to the discussions in which geography and institutions are linked to economic growth. In other words, relative location characteristics will be examined since the purpose is to present how the position of a country within the surrounding neighborhood affects its economic performance. Considering the counterarguments of Acemoglu et al. (2002) and Rodrik et al. (2004), the time-variant nature of neighboring through ever-changing trade volume will be considered to assess the possible impact as emphasized by Abreu and others (2005) that spatial weight matrices should be justified on theoretical grounds.

2.5.2. The Place of Location in Growth Studies

As institutional economics suggests the priority of inquiry into fundamental causes of economic performance, it is imperative to examine the regional spillover effect of institutions across countries, apart from economic indicators. Persson and Tabellini (2009) investigate the political aspect of spillover such that political structures have a tendency to diffuse to neighboring countries; they further advanced the discourse by invoking the Latin American political experience to substantiate their claims, thereby enriching the theoretical underpinnings of the study. Kelejian and the others directly focus on the possibility of a spillover of the development of institutions, which are politics, law, and governmental administration, across neighboring countries (2013). For them,

institutions spread across countries through various transmission channels, such as reciprocal learning among governments and citizens, imposition of regulations by imperialist nations, competition to attract trade and investment, and the influence of foreign economic actors. However, the diffusion of institutions faces distance-related challenges, making the diffusion more widespread and effective among neighboring countries. Proximity facilitates conquest, spillover of civil unrest, and a higher presence of economic actors from neighboring countries, thereby leading to greater institutional influence. Neighbors often share historical, cultural, and linguistic ties since transaction costs are reduced and institutional exchange is enhanced. Consequently, governments in nearby countries tend to copy each other's institutional structures to attract investment and foster economic growth.

Though there are not many studies directly on the effect of the political instability of neighboring countries, there is a larger part of the literature focused on the importance of institutions through geography, which emphasizes that the countries have spatial interdependence in their economic performances (Bosker & Garretsen, 2009). At this point, Easterly and Levine (1998) assert that economic growth studies show that political instability, schooling, poor financial structure, exchange rate uncertainties, and government deficits can account for half of the growth difference between African and East Asian countries, which are largely discussed examples of country clusters as proof of spatial dependence. The rest of it heavily depends on the characteristics of country groupings, especially considering the coherence of growth fluctuations of neighboring countries within Africa, Latin America, and East Asia.

Neighboring has multiplier effects in a way that policies formed by countries together have much larger effects on economic performance, either in positive or negative ways, than policies formed by countries alone. Their findings support the idea of the spillover effect since when the performances of the neighbors enter the analyses, the dummy effect of Africa becomes insignificant. Possible channels are discussed to reveal the diffusion of the influence across countries. First, countries may copy the policy steps of their neighbors in positive and negative ways. Latin American countries followed each other’s economic policies of import substitution, neoliberal adjustments, central bank independence, etc. Secondly, spillover of investment decisions may take place across

neighbors, especially if they have similar investment opportunities and local conditions (Easterly & Levine, 1998).

Furthermore, the transfer of knowledge is easier among agents with similar cultural, historical, and economic backgrounds, as well as the complexity of knowledge demands skilled labor, which both take us to the conclusion that lower transaction costs associated with knowledge facilitate diffusion across neighbors. The spreading of institutions could be the consequences of emulating bordering countries or the imposition of developed countries on their neighbors to improve the economic environment or their surroundings. They found that the origin of law, religion, natural resources, and geographical factors surrounding neighbors are fundamental institutional features channeling the spillover effect (Kelejian et al., 2013).

Mobile factors need to be examined separately in spillover effects across countries, besides the fixed ones. Fischer et al. (2009) examine the regional spillover of human capital across European regions. Though they find that human capital enhances labor productivity, negative externalities of human capital over neighboring countries offset the positive impact since increasing human capital in a region leads people with higher levels of human capital to migrate to more developed regions. Ramos et al. (2010) also support this finding in their human capital spillover analysis based on the Spain case. Though physical capital shows a positive effect on growth and productivity over neighboring regions, human capital shows a negative effect because of the competition of regions for qualified labor needed in high-added-value sectors. Sovereignty may be the reason for the negative conclusion because mobility capability differs across countries or regions. Ahmad and Hall (2017) enlarge the spillover effect to comprise institutional quality in their analysis, in which they find that improvement in institutional quality contributes to the institutional quality of neighbors, thereby promoting the growth of nearby countries.

The existence of a linkage between location and growth studies has wide coverage in the literature. Even though De Long and Summers (1991) could not find significant spatial correlations, they admit the theoretical importance of location by noting that the significance of the location may be absorbed by the collinearity of equipment investment. Moreno and Trehan (1997) emphasize that the correlation they have found is not just attributable to regional common shocks, but the market size, trade, technology, and

demand are also influential on bordering countries. They test various possible impact channels of location on economic performance. Rapid economic growth in one country would result in reaching its capacity. Thus, the country probably would direct some of its resources of knowledge, human and physical capital, and production processes to a nearby country to benefit from higher marginal returns. Based on the assumption that trade depends on distance, technology, and know-how, it will be spread out, especially to the nearest countries; furthermore, if the nearby country is a relatively big economy, it helps the host country to grow faster. In the comparison of trade and distance, they emphasize that the channels of the spillover effect extend beyond trade, thereby channeling through proximity. The effect prevails even after the neoclassical production factors are entered into the analysis, which leads them to conclude that the spillover effect has indirect effects on economic growth through impact on production factors apart from direct effects on growth (Moreno & Trehan, 1997).

The distance approach coincides with the famous thesis suggested by Tobler as the first law of geography, which asserts that everything is connected to each other with an inversely proportional degree to the distance between them (1970). At this juncture, Ramirez and Loboguerrero (2002) note in their study, which shows that the economic growth of countries depends on their neighbors' performance, that the neighboring impact of income level is more relevant than that of output growth rates, since income levels can capture long-run performance better and consistently in comparison with the growth rates.

Although the spillover effect is discussed largely in the sense of supportive impact on economies, it can also occur in a disruptive direction. Murdoch and Sandler (2002) enhance arguments related to the impact channels through collateral damage that happened to neighbors in their study addressing civil wars specifically. Civil wars destroy infrastructure even near borders, increase the perceived risk of potential investors deterring them from investing, neighbors may ramp up their military spending due to potential threats from civil wars at the other side of their borders, and incoming migration flows may disrupt labor market as well as trade of commodity and inputs is plagued, thus deteriorating the economic performance of host countries even if they are in peace. At this point, Moore and Shellman (2007) support the idea that refugees, due to civil, territorial, or border war, decide to relocate mostly according to the lowest distance and

highest cultural similarity instead of searching for larger economic opportunities or political freedom. This observation underscores the pivotal role of neighborhood economic performance in shaping migratory patterns, thereby providing a compelling rationale for the need to prioritize neighborhood-level economic development strategies.

The Arab Spring has created processes that demonstrate the importance of regional stability and spillover effects. The Arab Spring refers to a series of anti-government protests, popular uprisings, and armed rebellions that began in Tunisia in late 2010 and quickly spread across the Middle East and North Africa (MENA) region. Triggered by the protests started in Tunisia, the movement manifested itself in Egypt, Libya, Yemen, Bahrain, Syria, and other MENA countries as demands for equality, reactions against economic injustices, and rebellion against authoritarian regimes. With economic consequences such as political uncertainty, widening uncertainties, and declining investor confidence, the Arab Spring has increased financial market volatility in the MENA region, negatively affected tourism and foreign investment, and indirectly slowed economic growth. Arayssi and Fakih (2017) show that the Arab Spring had a negative impact on economic growth, particularly weakening the financial system's contribution to growth. This highlights the devastating effects of political instability on economic growth. It reveals that regime type and governance factors have become more important after the Arab Spring. Chau, Deesomsak, and Wang (2014), on the other hand, argue that the effects of the Arab Spring were not only limited to the countries directly affected but also spread to seemingly wealthier and more stable countries such as the Gulf Cooperation Council (GCC) countries and Türkiye.

These findings suggest that instability has created a regional contagion effect, creating shock and uncertainty in financial markets. In spite of the expectations to increase the welfare of societies, political uncertainty has reinforced the influence of local economic and political factors on markets. Regional unrest has, therefore, disrupted global economic integration. Elsayed and Yarovaya (2019) find that while the spillover effect is very strong in the MENA region, the 2007-2009 Global Financial Crisis increased financial stress spillovers across MENA countries, and the total spillover index reached a high level of 48.83% during this period. In contrast, spillovers were lower (19.77%) during the Arab Spring (Elsayed & Yarovaya, 2019, p. 29). This suggests that a global

financial shock generates a stronger contagion effect than a regional political turmoil, but the spillover effects across countries still exist in different kinds of shocks.

The Arab Spring, particularly the brutal response of the Syrian regime, led to the Syrian Civil War, leading to significant effects on Türkiye and other neighbors. The impact of the civil war on Türkiye was intensively examined in terms of trade, migration, and the labor force. Ianchovichina and Ivanic (2016) conducted a simulation analysis to predict the impact of war through trade and population-related causes. The simulation shows that trade disintegration during the war and increasing pressure on wages because of a higher labor supply distort economic performance. However, the effect on per capita welfare is not much due to the minor ratio of migrants to citizens in Türkiye, contrary to the Lebanon case. The studies that focus on the economy of Türkiye related to the inflow of refugees in the civil war period mostly result in mixed findings. Tumen (2016, pp. 459–460) concludes that despite the negative effects of losses related to the informal economy and higher unemployment rates, consumer prices fell down because of lower wage costs. Similarly, Altındağ and others (2020) reach the conclusion that despite the distortions in the labor market, the inflow of refugees causes firms' margin of production to increase, especially in SMEs and construction businesses. On the human capital side, the study of Çakır and others (2023) suggests that the inflow of refugees crowds out the labor supply of children, leading school enrollment rates to rise, which can be considered as an indirect positive effect of refugees on natives' human capital. Even though the findings do not coincide with each other, the strong spillover effects across countries can be testified through various examples.

The economic growth literature focuses on key drivers such as geography, institutions, and economic integration and discusses how these factors shape economic performance. Geographical features, especially coastal access, natural resources, and climate, play an important role in economic development, while spillover effects between neighboring countries affect growth directly and indirectly through knowledge, physical capital flows, human capital, trade, and institutional structures. In this context, the economic and institutional dynamics of neighboring countries are crucial for understanding country-specific performance. Especially, critical factors in economic performance, such as political instability, are not limited to the domestic dynamics of a country but are also

affected by the political and economic conditions in neighboring countries. For example, civil wars or political turmoil can create negative spillover effects to neighboring economies through cross-border infrastructure destruction, perceived investment risk, migration flows, and trade route disruptions. Therefore, the assessment of political instability in economic growth studies should be considered not only at the national level but also in a regional and neighborhood context. The literature shows that historical, cultural, and economic ties between countries, especially in certain regions, facilitate the diffusion of institutional and political structures. Therefore, a comprehensive approach to factors such as political instability and the institutional quality of neighboring countries in economic growth models is indispensable for more robust analyses. This approach emphasizes the importance of spatial interdependence and regional dynamics in both theoretical and empirical studies, and emphasizes the necessity of considering regional aspects in the making of economic development policies.

2.6. Concluding Remarks on the Chapter

The critical role of political institutions are highlighted with the intricate relationship between political instability and economic growth. How political structures, particularly the (in)stability and consistency of regimes, shape economic performance through channels such as property rights, rule of law, suppressing consumption, autonomy, and governance efficiency is explored. While democracy is often regarded as fostering inclusive institutions that encourage investment and innovation, the empirical evidence reveals a rather complicated relationship such that democratic regimes can be suffered by short-term populist pressures, while authoritarian regimes may achieve growth through political stability. The analysis reveals that political instability with its manifestations through coups, revolutions, social unrest, or executive turnover, has a more consistent negative impact on economic growth than regime type alone.

The chapter further highlights the multidimensional nature of political instability, including violence, social tensions, legislative disturbances, government changes, and societal fragmentation, and the challenges in measuring it due to its subjective and multidimensional nature. How political instability in one country can expand beyond its borders across neighbors, affecting trade, investment, and labor markets is illustrated by examining regional spillover effects, such as those observed during the Arab Spring or

the Syrian Civil War. These findings direct the focus of the study to the necessity of incorporating spatial and regional dynamics into growth models, since geographical proximity affects the diffusion of institutional and economic influences. In the end, this chapter attempts to establish an approach that accounts for both domestic political stability and regional interdependencies, thereby setting the stage for further investigation of how these factors are linked to economic policies and development strategies.

CHAPTER THREE

THE RELATIONSHIP BETWEEN POLITICAL INSTABILITY AND ECONOMIC GROWTH

The political environment is one of the most vital institutional factors in the development capacity and direction of the fundamental causes of economic growth. Examination of separate dimensions of the political environment could facilitate comprehension of which dimensions impact in which way. As clarified above, political stability is at least as important as regime type in regard to its impact on economic performance. Comprehension of how political stability/instability can transform the growth and development capacity of a country would enable us to suggest further policy proposals.

One of the other considerations for the concept of political instability is the direction of the potential relationship between political instability and economic growth. Economic scientists mostly examine the relationship in a direction from political stability to economic growth, while political scientists do so in the opposite direction from economic performance to political stability, treating economic variables exogenously. The direction of causality is vital to propose necessary policy recommendations, since if economic performance is a prerequisite for political stability, then countries should engage in economic reforms rather than striving to improve the political environment. In addition, if a powerful political structure is needed for economic prosperity, advising political reform to less developed countries would be the answer for economic progress (Deaton & Miller, 1995).

Alesina and Rodrik depict the dissimilarity in these approaches as economics mostly deals with expanding the size of the economy, though politics is mainly interested in distributing it. Thus, economic expansion does not ensure political stability as long as the expansion is at the expense of the majority by disturbing income inequality further (Alesina & Rodrik, 1994). The following related literature helps to assess the contrast of expansion and distribution by

examining how different measures of economic performance are linked to political instability. Additionally, the existence of a unidirectional or reciprocal relationship between political stability and economic growth will be investigated to integrate the distinctive approaches of economics and politics.

3.1. The Effect of Political Instability on Economic Growth

Considering the concerns above, the literature addressing the relationship between economic growth and political instability will be examined according to the findings that conclude the negative impact of political instability on economic growth as presumed in theoretical studies, while on the other hand, there are empirical results that show the findings are mixed. Inconclusive findings emphasize that the results are sensitive to regions, ethnic structure, and other types of country-specific characteristics. Further, the choice of proxies for political instability and model specifications that consider particular explanatory variables in economic growth equations can have substantial differences in findings. Although not common in empirical studies, there is a limited number of theoretical views that assert political instability can actually have positive effects on economic growth. Lastly, reverse causality, which presume the negative impact of economic growth on political instability, will be elaborated to grasp the possible endogeneity problem in the matter of question.

3.1.1. Negative Effect of Political Instability on Economic Growth

Political instability and economic growth relationships are studied in a wide range that comprises the geological, demographic, level of development, and structure of population differences of countries. The study will classify former studies with respect to their political instability measure, transmission mechanisms, and aspects of the impacts in order to comprehend the literature and its projection.

Barro implemented revolutions, coups, and political assassinations as indicators of political instability. The study proposed that the indicators have a negative impact on property rights, thereby affecting investment and economic growth adversely (Barro, 1991). He found that political instability hinders economic growth, while the reverse is unclear. Alesina and others also reached similar conclusions in both directions, which are from political instability to economic growth and economic growth to political instability. They try to reveal the effect of the political environment in a broader context so that regime type indicates no cruciality on economic performance. A politically unstable environment causes economic actors to wait for

the initiation of economic activities and, what is worse, to invest in foreign markets, with the result that economic growth deteriorates. They elaborate the analysis in a manner that government changes are separated as regular and major ones. Major ones, which represent irregular and severe unconstitutional changes, are the most effective form of political instability for economic growth. Further, political change increases the degree of subsequent political instability, which can be called a vicious cycle of political instability and low economic growth relationship (Alesina et al., 1996).

Barro and Lee take the average of revolutions, whether successful or not, over the period of 1960 to 1985. This average is assumed to be the probability of revolution that could represent political instability for them. They defend taking the average for the whole period by claiming that the revolution probability does not vary much over time. They conclude that one standard deviation of an increase in the probability of revolution in a country seems to cause a 0.3 percentage decrease in economic growth in that country. They explain the possible causal relationship with property rights. Political instability causes property rights to be less secure, thereby discouraging investment decisions. The decline in property rights, for them, decreases the steady-state output per effective labor, so that the growth rate reduces for given steady-state variables (Barro & Lee, 1994). They also checked the relationship through external war as a proxy for political instability. They found no clear relationship between war and economic growth, but they admitted that the inconclusive finding probably stemmed from poor data on war.

Benhabib and Spiegel introduce the political instability variable obtained from Gupta's (1990) political instability index into their human capital model. Gupta generated an index for political instability consisting of the number of riots, demonstrations, strikes, and deaths related to political violence, assassinations, armed attacks, political executions, successful coups, and unsuccessful coups. Their analysis shows that political instability has an insignificant effect on economic growth. They argue the possibility that, rather than having a direct effect of political instability on economic growth, political instability could indirectly affect it through the factor accumulation of capital. The insignificance could also be related to the human capital owing to the multicollinearity potential between political instability and human capital. In their similar previous study that regresses the data for the period of 1970-1985, they find the effect of political instability as unexpectedly positive and insignificant (Benhabib & Spiegel, 1992).

Although the topic of political instability was mostly discussed empirically, there are some studies that treated the issue theoretically. Benhabib and Rustichini include social conflict in their game theory model of economic growth, which can be considered as a related term to political conflict in terms of their conceptualization. They come up with the idea that social conflict results in ineffective redistribution of wealth, leading to low growth and high consumption (Benhabib & Rustichini, 1996). Chen and Feng (1996) establish overlapping generations by inserting political uncertainty into the investment choices of individuals. They infer that a decrease in the probability of survival of a regime lowers growth rates. They reinforce their theory through empirical tests. They produce the probability of regimes' survival to carry out empirical analysis, as well as political polarization and government repression, in which they find all three aspects of political instability negatively related to economic growth, supporting their growth model. Further, they reach negative and significant linkages between the three dimensions of political instability and investment, so that they conclude that political instability not just directly but also indirectly influences economic growth. The significance of the separate dimensions in the empirical analysis leads them to assert that one aspect of political instability may offset the deficiency of the other, such that if a regime is highly stable in one country, high polarization or repression of governments may not prevent totally that country from economic growth.

Another point to be highlighted in their analysis is that they implement the International Country Risk Guide and Business Environmental Risk Intelligence indicators as proxies for government repression, unlike the implementation of Knack and Keefer (1995) in which they proxy the same indicators for institutional quality. Whereas the introduction of ICRG and BERI into the models of Knack and Keefer renders political instability variables insignificant, Chen and Feng (1996) contend that the significance of the political instability variables endures even after the introduction of ICRG and BERI into the empirical model. Furthermore, Dollar and Kraay (2003) integrate war casualties, revolutions, and government turnovers into their dimensions measuring institutional quality, thereby finding the importance of institutional quality on economic growth and trade, which unfolds the requirement to be cautious in including political instability and institutional quality separately. In a wider analysis, Fedderke and Klitgaard (2006) carry out an empirical analysis covering political culture, political rights, institutional quality, social characteristics, and political instability. Their analysis reveals strong correlations between all aspects of institutions, which makes them conclude that social, economic, and political indicators have a *web of associations*, indicating that their indicators

are associated with each other. While the *web of associations* implies strong correlations between political instability and economic growth, it also makes assessing the direction and magnitude of multilateral linkages difficult.

Alesina and Perotti (1996) enlarge their model by including income as income inequality can deepen the political instability, for them. Deepening income inequality causes investments to drop, which eventually causes economic growth rates to decline. Political instability could be read as a transmission channel for the relationship between income inequality and economic growth. They hypothesize that a higher frequency of government changes channels taxation policies to rise because of the lower possibility of remaining in power. Further, productivity is disrupted because of social unrest, and investment decisions are postponed or replaced in foreign countries. Perotti contributes to this position in a more sociological way in another article, which suggests that incentives for certain groups to appropriate other groups' resources increase in highly fractured societies, thereby discouraging those disadvantaged groups from investing (Perotti, 1996). Persson and Tabellini reach similar conclusions on the negative correlation between growth and income inequality, supportive of the claims of Alesina and Perotti, by constructing a theoretical model based on a reconciliation of overlapping generations and endogenous models. A rise in income inequality leads to the imposition of more taxes on productive activities to redistribute income by putting more pressure on governments, which is especially prevalent in democracies. They support their theoretical model with empirical analysis conducted on developed and developing economies (Persson & Tabellini, 1994).

Bernal-Verdugo et al. (2013) try to enhance the topic with regard to the interval of after-political shock. They approve of the negative effect of political instability on economic growth for the short term, while its effect disappears in the medium term. Diversification of the impact period enriches the literature, but it should be noted that political instability is autocorrelated and may not have random walk occurrences from year to year. Campos and Karanasos (2008), on the other hand, assert that the impact of political instability disappears within 6 years.

The importance of the measurement has been debated before. Interestingly, Aisen and Vega (2013) chose only the cabinet changes as a proxy for their political instability variable. They asserted that their choice is coherent with the instability of the regime and instability within the regime distinction of Jong-a-Pin (2009) to reflect both types of instabilities. Despite the fact that they found a significant negative relationship between political instability and economic growth, Jong-a-Pin concludes that the instability within the regime may not cause a negative

impact on economic growth; instead, instability within the regime can lead countries to establish more inclusive executions and can be considered as a competitive environment for politics, which eventually bring more pro-economic environments out. They create advanced estimation models that include ethnic fragmentation, democratic structure, and economic freedom of relevant countries, which is aligned with the institutional approach. Regression results show that cabinet changes affect economic growth substantially in a negative way. Moreover, advanced models are convincing that the negative effect of political instability has an independent effect on economic growth. They also implement different sets of indices that are varied combinations of coups, legislative elections, fragmentation, government crises, assassinations, revolutions, constitutional changes, wars, and genocides in the model to assess the proxy strength of cabinet changes, which revealed the robustness of their conclusion. The exclusion of developed countries, sub-periods, or continents also does not change their analysis results. They also investigated the transmission mechanism of the impact of political instability. Their econometric analysis revealed that the main channel of the impact is through total factor productivity, which accounts for more than half of the effect. The rest of the impact occurs through human capital and physical capital (Aisen & Veiga, 2013).

Three different types of political instability utilized in the study of Feng (1997, pp. 406–407) show diverse influences on growth. Irregular political changes have a negative impact on economic growth; conversely, major government changes seem to contribute to economic growth positively if the change takes place regularly, while minor changes have no significant effect. Feng concludes that the substantial differences between irregular vs regular and major and minor changes indicate that the manifestations of political instability in regime or government changes may alter the impact of political instability on economic growth (Feng, 1997, pp. 413–414). Irregular changes sharpen uncertainty in the market since fundamental changes cause hesitation in investment decisions to avoid risks. On the contrary, government changes can signal political adjustments and increase the accountability of executives, thereby leading to attracting investments. Campos and Karanasos (2008) reach similar conclusions in their distant political instability indices. Formal political instability has no direct negative influence on economic growth, in line with the major government change index of Feng. Informal political instability, however, has a significant effect on growth. Their study dissociates from Feng's on the volatility of growth, such that their introduction of the volatility of growth into the model suggests that formal political instability could indirectly affect growth through the volatility. Klomp and de Haan (2009, p. 315) modify the volatility by dividing the

standard deviation by average growth rates to find out the relative volatility of countries, since volatility becomes a more serious problem in countries with low growth rates. Similar to Feng, they reach the conclusion that different dimensions of political instability adversely affect volatility.

Democracy is preferred to be included in the analysis by Feng (2003) such that it does not have a direct influence on growth. However, he finds that democracy mitigates irregular political changes and induces regular government changes, which both directions stimulate economic growth positively. He elaborates on the possible transmission mechanism of the impact in another study more explicitly. The degree of instability directly influences the degree of aversion in both domestic and foreign investment decisions because of the entry and exit costs of investments (Feng, 2003). Foreign investment decisions also opt for countries that cooperate with other countries, which is strictly related to the scope of this study. Persson and Tabellini (1999), at this point, emphasize that the growth retarding aspect of political instability is related to myopic fiscal policies arising from uncertainties that result in lower public investments rather than private investments, since uncertainty has an ambiguous effect on private investments.

Unlike the two-period model of Persson and Tabellini (1999), Darby and others (2004) establish a similar model but with infinite-horizon individuals. Median voters with random voting behavior are included in the model so as to present political uncertainty. Political uncertainty causes incumbent governments to increase their discount rates above consumers', thereby causing policy myopia to lower public investment below private investment levels by shortening time preferences. Another proposition of the model is that social welfare is not maximized in the presence of uncertainty, though government spending increases relative to government investment. Their political uncertainty definition is limited to constitutional changes, including government structure of majority-minority and single-multiple types, number of parties in government ratios, voting uncertainty, and ideological composition. The empirical analysis based on these variables supports their infinite-horizon economic growth modeling.

Polachek and Sevastianova (2012) justify the novelty of their analysis by introducing war data collected systematically under the name Code of War. They distinguish between war types, such as interstate, intrastate, and low-intensity disputes, to reveal the dimensions of instability related to conflict. The findings of the investigation reveal that civil wars and international wars influence growth negatively, whereas low-intense conflict might influence in a positive

direction, though the effects disappear in the long run. However, they emphasize that the results could vary across countries regarding their differences in regions, regime types, and income levels. Latin American countries suffer from civil war severely, while OECD countries do not, as well as poor countries are affected by different war types. Further, democratic countries seem less prone to the decline in growth stemming from intense conflicts. Though the study does not investigate the channel through which influence occurs, it evidences the importance of distinguishing between regions, wealth, geography, and time interval. Another study that was carried out by Cebula (2011) on OECD countries exhibits a strong linkage between political stability and economic growth in the presence of economic freedom indicators. Since the omission of the political instability variable that is retrieved from WGI causes the model to perform poorly, he emphasizes the significance of the inclusion of political instability variables in economic growth analyses.

Most of the existing literature contains analyses that are conducted through panel data. Rather, Asteriou and Price (2001) develop their analysis based on UK time series data, claiming that panel data has weaknesses like suppressing the importance of particular destabilizing political events and their particular impact on economic growth. They emphasize that the employment of time series analysis provides an analysis that comprises more comprehensive institutional and historical features specific to a country and the possibility to collect higher quality data customized based on that country. In their extensive analysis comparing various techniques, dummies, and components, they find significant negative relationships between instability and growth and variance of growth, in which the analysis includes political instability components that rely on terrorism, strikes, and legal changes in the absence of unconstitutional changes. In support of the study Asteriou and Price (2001), Telatar and Cangir (2014) develop their own dataset based on Türkiye for the period of 1955-2009. They collected various dimensions of destabilizing events from the front pages of the domestic newspapers and indexed them employing principal component analysis, in which they reached a comparatively different trajectory of political instability for Türkiye.

The relevant studies are classified in Table 3.1 to visit the sources of the data, which proxies are treated as indicators of political instability, the method or methods applied to the models specified in the relevant studies, the main conclusions of the main tests, and suggested transmission channels, if they ever existed. As discussed above, the conclusion may vary according to the dataset chosen, sub-categories of countries divided in regard to the regions, regime types, development levels, or similar types of country-specific characteristics; thus, the

conclusions column only indicates the main results. The econometric method and transmission channels are not quite explicit in some studies; therefore, corresponding to these cells are left empty.

Table 3.1. Table of the Studies on the Effect of Political Instability and Economic Growth

Studies	Data Sources	Periods and Countries	Political Instability Measures	Econometric Methods	Conclusion	Transmission Channels
(Barro, 1991)	CNTS	1960-1985 98 Countries	Revolutions Coups Political assassinations	OLS	Negative impact	Property rights
(Alesina et al., 1996)	World Handbook of Social and Political Indicators Political Handbook of the World	1950-1983 113 Countries	Government changes Major Changes Coups	AGLS	Negative impact	Investment and savings
(Barro & Lee, 1994)	CNTS	1960-1985 116 Countries	Revolutions	SUR	Negative impact	Property rights
(Benhabib & Spiegel, 1994)	Gupta(1990)	1965-1985 78 Countries	Riots Demonstrations Coups Political assassinations Strikes Deaths related to political violence Armed attacks Political executions	OLS	No direct impact	
(Blomberg, 1996)	Alesina et al. (1991)	1967-1982 70 Countries	Coups Executive Adjustments	SEE: OLS Probit	Negative impact	Defense spending
(Alesina & Perotti, 1996)	Barro and Wolf	1960-1985 71 Countries	Assassinations Political deaths Successful coups Unsuccessful coups Democracy	2SLS	Negative Impact	Income inequality
(Bernal-Verdugo et al., 2013)	CNTS PITF	1980-2010 183 Countries	Cabinet Changes Government Crises General Strikes Demonstrations Regime Changes Assassinations Riots Revolutions	OLS GMM IRF	Short-term: negative Medium-term: inconclusive	Absence of governance
(A. Ades & Chua, 1997)	(Barro & Wolf, 1989)	1960-1985 98 Countries	Revolutions Coups Political Assassinations	OLS	Negative Impact	Trade Military expenses

(Aisen & Veiga, 2013)	CNTS	1960-2004 169 Countries	Cabinet changes	System-GMM	Negative Impact	Productivity Physical Capital Human Capital
(Fosu, 1992)	Patrick McGowan (1986)	1960-1986 Sub-Saharan African Countries	Successful Coups Unsuccessful Coups Overthrow plots	OLS	Negative Impact	Capital and Export productivity
(Londregan & Poole, 1990)	World Handbook of Political and Social Indicators	121 Countries 1950-1982	Coups	AGLS	No impact	
(D. K. Gupta et al., 1998)	Polity II	1965-1986 120 Countries	Political Deaths	OLS IV	Negative Impact	Not clarified
(Levine & Renelt, 1992)	Barro(1991)	1960-1985 119 Countries	Revolutions Coups	EBA	No impact	
(Feng, 1997)	World Handbook CNTS	1960-1980 96 Countries	Government change Political executions Unsuccessful Coup Attempts Legitimacy Deaths Riots Constitutional Change Cabinet Change	3SLS	Negative impact	Investment
(Campos & Karanasos, 2008)	CNTS	1896-2000 Argentina	Elections Constitutional Changes General Strikes Assassinations	PARCH	Negative impact of informal political instability	Not indicated
(Sala-i-Martin, 1997)	(Barro & Lee, 1994)	1960-1992	Coups Revolutions War	CDF of parameters with multiple OLS	Negative	Investment
(Carmignani, 2001)	(Carmignani, 1999)	1960-1990 11 Western European Countries	Ideological Fragmen(Easterly & Levine, 1997)e Impact	Efficiency		
(Easterly & Levine, 1997)	CNTS	1960-1990	Assassinations	SUR	Negative Impact	Not indicated
(Polachek & Sevastianova, 2012)	Code of War	1970-2000 90 Countries	Interstate War Intrastate War	FE OLS	Negative Impact	Not indicated
(Murdoch & Sandler, 2004)	Code of War and the extension of it by (Collier & Hoeffler, 2004)	1961-1995 84 Countries	Civil War	Not indicated	Negative Impact	Human Capital Flight Investment Trade
(Gyimah-Brempong & Traynor, 1999)	CNTS	1975-1988 39 Sub-Saharan African Countries	Coups Assassinations War	Dynamic GMM	Negative Impact	Investment

			Secession Revolutions Government Crises Riots Strikes Major Constitutional Changes			
(Jong-A-Pin, 2009)	CNTS ICRG Polity IV	1974-2003 90 Countries	25 Indicators	System-GMM	Negative Impact	De facto uncertainty
(Asteriou & Price, 2001)	OWN WORK	1961-1997 UK	Terror Strike Election Government Change	OLS GARCH GARCH-M	Negative Impact	Government Spending Investment
(Campos & Nugent, 2002)	(Barro & Lee, 1994) Polity III	1960-1995 98 Developing Countries	Assassinations Revolutions Coups Participation Regulation Competition Independence of Execution	Granger Causality IV	Inconclusive	
(Butkiewicz & Yanikkaya, 2005)	(Easterly, 1999)	1970-1997 100 Developed and Developing Countries	Violence Protests Governmental Crises Demonstrations Revolutions Assassinations Riots War External Conflict Cabinet Change Strikes Purges	3SLS SUR	Mixed	Mixed
(Chen & Feng, 1996)	CNTS World Handbook	1974-1990 88 Countries	Regime Change Polarization Government Repression	IV Logit	Negative Impact	Investment
(Cebula, 2011)	WGI	2003-2007 OECD Members	Composite	PLS P2SLS	Negative Impact	Not indicated
(Gurgul & Lach, 2013)	Own Work	1990-2009 10 CEE Countries	Government Change	Simultaneous Equations: OLS Probit	Negative Impact	Investment

3.1.2. Inconclusive Findings

Contrary to the predominantly negative relationship results seen in the literature, there are a limited number of studies showing that there is no such negative relationship between political instability and economic growth. One of the most prominent studies was conducted by Campos and Nugent (2002). Two different types of political instability proxy variables were used in the study: one is *severe* version of political instability consisting of assassinations, revolutions, and successful coups, and the other is a *moderate* version of political instability consisting of a combination of legislative institutional capacities. They found that both moderate and severe measurements of political instability have no long-term effect on economic growth except in African countries. They claim that most studies are conducted with the assumption of an important relationship from the beginning, due to the stylized phenomenon that pushes researchers to collect data in a way that can demonstrate the relationship. They insist on the problems of the misguidance of data collection management as well as the insufficiency of sensitivity analyses for the relevant studies that find the relationship negative and robust. Along these lines, they argue that if African countries were excluded from the current analyses, the results in other studies would be closer to their own results. The significant relationship that is obtained in other studies could stem from institutional quality that jointly affects instability and economic growth. However, they still state that adding different indicators or variables to measure political instability may change the results.

This suggestion also shows that this research topic points to a missing point. Jong-a-Pin addresses the counterarguments of Campos and Nugent (2002), thus he exempts African countries from his analysis. Even so, the modified analysis shows a significant causal relationship between the political instability of the regime and economic growth (Jong-A-Pin, 2009). At this point, it would be worthwhile to inquire into studies focusing exclusively on the African regimes. Fosu (1992) investigates exclusively Sub-Saharan African regimes and differentiates between production factors and institutional factors in line with this study by emphasizing the lack of attention to the institutional environment around economic activities. He examines the political instability of Sub-Saharan African countries by placing coup and government overthrow plot data as the proxy for political

instability. He concludes that political instability in Sub-Saharan African countries negatively affects economic growth for the period of 1960-86.

Political instability causes a reduction in the productivity of both physical and human capital. Alteration of economic and political rulers would make economic decisions to deter investments because of diminishing expectations of the rate of return. Labor, which is another factor of production, would also suffer from brain drain, thereby inducing a lower rate of productivity. Even organization and timing disruptions would cause marginal productivities of labor and capital to be affected adversely, thus decreasing the steady-state level of economic growth. Apart from that study, he also conducts a similar analysis of Sub-Saharan African countries by adding unsuccessful coups and coup plots data. The extensive version, he claims, fits better with the linkage by both eliminating misspecification problems and establishing a stronger relationship that shows a negative impact channel (Fosu, 2001). Berthélemy and others (2000, pp. 19–20) reach similar conclusions that political instability not only impairs capital accumulation but also reduces the return of investments on growth.

The political instability studies are criticized by Levine and Renelt (1992) for skipping the robustness of their analysis. They implement the extreme bounds analysis method to examine if regressions related to political instability are reliable under different control variables. Their findings reveal that any increase in control variables could bring about an unexpected coefficient sign or statistically insignificant results. Sala-i-Martin (1997) opposes their robustness methods by arguing that extreme bounds analysis skips probabilities to influence. Extreme bounds present binary solutions in a way that if any parameter has a chance to take negative and positive signs, that parameter is regarded as not robust. Rather, he offers to get weighted averages of parameters obtained from different combinations of regressions. In doing so, he finds that coups, revolutions, and war have a negative impact on economic performance, whereas ethnic fragmentation, which could be regarded as a proxy for socio-political instability, has no significant effect.

The indices of political instability influence economic performance through their impact on investment, whether by causing uncertainty or rate of return, so that, for him, they do not have an impact on economic performance once the aggregate investment effect is left out of the regressions (Sala-i-Martin, 1997). However, when investment appears in the

equations, its effect becomes insignificant. Ley and Steel (1999) implemented the Bayesian Model Averaging technique to replicate the analysis of Sala-i-Martin. They share Sala-i-Martin's objection to Levine and Renelt regarding the various factors influencing economic growth. However, their findings dissociate from Sala-i-Martin's with regard to political variables, such that coups and revolutions seem to have a 4.8% probability of inclusion in the growth model, while ethnolinguistic fractionalization now has an 87.4% probability of inclusion, which is quite contrary to the results of Sala-i-Martin (Ley & Steel, 1999, p. 12).

Ethnic fractionalization is taken into account by some other studies with regard to political instability. Easter and Levine (1997) strive to reveal the underlying causes of low growth performances of African countries by investigating the poor political context that hinders economic development in Africa; hence, there should be some common connection between the substantial factors that are distorted or lacking in most of the African countries. Their findings support that ethnic fractionalization impedes the offering of public goods and deepens the rent-seeking behaviors of interest groups. Consequently, ethnic polarization damages revenue-maximizing tax strategies, infrastructure investments, public spending on education, and political stability, hence making vulnerable significant factors of sustainable economic growth. Their analysis shows that 28% of the divergence of African growth from East Asia stemmed from ethnicity (Easterly & Levine, 1997, p. 1207). Their findings imply that political instability has a transmission role in the relationship between ethnic diversity and economic growth in a way that deteriorates the stability of countries. Blanco and Grier (2009) partially agree with the worsening effect of ethnic diversity, such that ethnic diversity lowers instability up to a certain level, but only after that, it exacerbates instability.

Some studies simultaneously examine both directions of the relationship to see if there is any endogeneity. Londregan and Poole (1990) chose this method to find out whether there is a bilateral impact or not. They found that political instability does not have a significant effect on economic growth or vice versa. The impact on income will be discussed later under the reverse causality section. De Haan and Siermann (1995) find no evidence for the significance of the regime type or even political stability on growth accounts. They argue that the findings correlating political factors and growth mostly suffer from the lack

of robustness associated with measurement and test specifications. In another study, they found mixed results that change across country groupings of Latin America, Asia, and Africa, such that only Africa seems to have a significant negative impact of political instability on economic growth, which occurs directly and indirectly through investment rates (De Haan & Siermann, 1996). Despite the authors' persuasive findings, the limitation of proxying political instability as the frequency of government changes may influence the results of their empirical research.

Government turnovers, cabinet reshuffles, and other governmental measures are questioned in terms of the representativeness of political instability. The criticism of Gyimah-Brempong and Traynor (1996) and Gyimah-Brempong and De Camacho (1998) on the measurement of political instability as being "elite" by including only dimensions of executive types of instabilities is tested in their studies. They conclude that elite instability shows mixed conclusions, which could be due to the fact that economic agents can disregard the volatility in executive turnovers over time, whereas comprehensive political instability measurements that are inclusive of socio-political aspects have a persistent impact on economic performance. Therefore, the studies that find no clues about the linkage or inconclusive results for the linkage are probably those that have restricted themselves to narrow political instability measurements (Gyimah-Brempong & Traynor, 1999). However, it should be kept in mind that their analyses of enhanced and elite instability comprise only Sub-Saharan African countries, whereas the studies they objected to involve countries from different income levels and continents.

Instead of refusing the statistical significance of political instability, Knack and Keefer (1995) emphasize the ambiguity of the impact of political instability on economic growth. They criticize the implementation of political instability indicators of assassination, coups, and revolutions as proxies for the insecurity of property rights, which can be justified by a lack of relevant data. These political violence indicators have been considered as influencing leaders to expropriate more easily because of replacement fear. They argue against this transmission mechanism such that replacement can not only occur non-constitutionally but also constitutionally. Secondly, insecurity of property rights might appear in the absence of such political violence events, while the actualization of coups might not drastically change property rights. They include the International

Country Risk Guide (ICRG) and Business Environmental Risk Intelligence (BERI) indicators to compare the influence of institutional quality and political instability. The results show that when institutional quality enters analysis, political instability becomes a much less significant proxy for the protection of property rights that are crucial for economic growth. As discussed above, it can be argued against them that political instability indices that have been elaborated beyond unconstitutional events of replacement still show a significant impact on economic performance in some of the research.

Similar to Knack and Keefer's (1995) conclusions, the investigation of Butkiewicz and Yanikkaya (2005) presents ambiguous results depending on the data, cross-country sections, and instability dimensions. The indicators are divided between social, governmental, and political violence to reveal the diverse impacts of different dimensions. Their analyses present results that differ according to the income level of countries, regime types, exclusion or inclusion of outliers, and political instability measures. In spite of the ambiguity of the results, it seems most of the political instability dimensions have the expected negative signs for middle-income and democratic countries, unlike non-democratic, low-democratic, and low-income countries. They suggest one possible reason could be that low-income and low-democratic countries could be more adapted to destabilizing events, unlike the democratic and developed countries that have much to lose.

Academic debates surrounding the topic of growth accounting increasingly take into consideration the political, geographical, cultural, and educational features of countries as determinants of economic growth. Easterly and others (1993) disagree with the introduction of country characteristics into the economic growth models. They find that the correlation between economic growth rates across countries, time intervals, and intra-industries is weak, whereas the correlation between country features across time is persistent. Instead, temporary shocks that are the terms of trade, war casualties, and external debt crises have low persistence that could explain the large variances in growth rates. Their analysis shows that political instability measures of assassinations, coups, and revolutions cannot explain growth variance in addition to other features of countries. Nonetheless, they admit the characteristics of countries have an essential impact on the

relatively steady-state income levels of countries since they are highly persistent across time, similar to the characteristics of countries. However, they perceive political instability as assassinations, coups, and revolutions, as well as differentiate war casualties as temporary shocks, whereas war and similar events are considered as part of political instability in plenty of studies, which blurs the line between persistent country characteristics and non-persistent shocks.

3.1.3. Positive Impact of Political Instability on Economic Growth

Although political instability has been perceived as disruptive, mixed, or at least as insignificant for economic performance, Mancur Olson regards the relationship as rather complicated. Even though the activities leading to political instability hinder economic growth in the short term, it is possible that these activities can increase economic growth in the medium term by changing dysfunctional institutional structures. On the other hand, he suggests that political stability can hinder economic growth in the long run because interest groups- *distributional coalitions*, as he named- can establish their self-beneficial structures, which prevent the adaptation of technological changes that are necessary for further economic growth (Olson, 1982). Goldsmith reveals that political stability has no significant effect on economic growth in his study on the assessment of the theories of Olson. In this study, consistently stable countries are grouped, and the conclusion for that group shows a decline in growth rates along with the grouping of unstable countries. Further, he asserted that Olson's theory could be partially valid for consistent liberal democracies, but it seems irrelevant for Third World countries. This distinction makes coherence between confusing results of the linkage of instability and growth, such that chronically unstable states could perform slow growth, whereas stabilizing states could exhibit a rapid growth pace, despite both being considered unstable states at the beginning of their growth path. (Goldsmith, 1987).

3.2. The Effect of Economic Growth on Political Instability: Reverse Causality

The reverse causality is usually tackled with two different perspectives, one of which corresponds to the discussion in the previous chapter as the politics-oriented approaches that are inclined to catch the importance of economic growth in securing political stability and the other one that seeks to check the simultaneous relationship.

In order to check for simultaneity, Alesina and others (1996) analyze the reverse causal relationship to reveal if there are any endogeneity problems between political instability and economic growth. Their conclusion finds no persistent effect of growth on political instability. Another study emphasizing the importance of considering the simultaneity of the linkage is Gyimah-Brempong and Traynor (1999), in which the analysis reveals a significant impact of economic growth on political stability. Berthélemy and others (2000) reach similar conclusions that reveal economic growth softens political instability in their analysis based on 22 African countries. Likewise, Jong-a-Pin (2009) checks the reverse causality running from economic growth to different dimensions of political instability. The results show that positive economic growth inhibits politically motivated violence while it escalates instability within the regime, which leads him to suggest that democratic competition has positive feedback effects on growth. As Ades and Chua said, the regional instability study has the opportunity to be exposed less to endogeneity problems because less evidence of the economic performance of a country lessens neighboring countries' political instability (1997).

As it is discussed above, Gupta et al. (D. K. Gupta et al., 1998) examine the effect of income growth on political instability, including the regime type variable. They conclude that the growth in income per capita produces legitimacy for the political system, hence decreasing political instability. Getting inspired by the Kuznets curve, they claim that the coercion of power increases political instability to some maximum, and after that, further increase in coercion decreases political instability, which maximum point is expected to occur at much lower coercion in non-democratic regimes (D. K. Gupta et al., 1998). This argument supports the hypothesis that democracies are more stable in the long run.

The divide put by Huntington makes the measurement component critical for political instability. For him, modernity leads to stability, while the modernization process leads to instability (Huntington, 1968). Based on the renowned controversial claim of Huntington, Londregan and Poole (1990) make a distinction between income and growth to assess the impact of political instability on the economy. Firstly, their analysis reveals that there is no causality, both from coups to economic growth and economic growth to coups. However, the income level has a strong causal relationship with coups. High income shows a coup-inhibiting feature, while income growth does not. Even though

economic growth seems not to have an effect on inhibiting the propensity to coups, countries still pursue higher economic growth rates because of the inhibiting effect of high income on coups. This suggestion works both in democratic countries due to the purpose of winning elections and in non-democratic countries due to inhibiting the propensity to coups. Feng (1997) finds a significant relationship in both directions, such that economic growth also hinders irregular political changes while exacerbating minor government changes. For him, the results imply that economic prosperity lowers threats to regimes while enhancing regulations within a government.

Similar to the distinction of Huntington, Hibbs (1973) presents that rapid development processes could lead to instability because of the troubles related to adjustment problems of the rural and working class to the industrialization process, though high-income level countries seem to be more prone to destabilizing events. The adjustment process is not just related to economic change but also to the social and cultural changes that coerce social attitudes to transform rapidly. Just as positive economic changes can lead to instability, negative ones also cause social disturbance due to unemployment, economic recessions, and high inflation, which eventually may turn into destabilizing mass violence (Hibbs, 1973).

Londregan and Poole (1990, p. 159) try to support their conclusion by giving a comparison between Latin American and African countries. Though Latin American countries have witnessed more coups than Africa, their economic growth performance is better than African ones. This claim can be criticized by considering the steady-state level of economic growth theories. Kaldor (1961) expands the steady-state level of growth to include structural differences, institutions, trade, and integration potential of countries in a way that countries could exhibit different trajectories persistent even in the long run. Further, path dependence arguments can enlighten the difference between Latin American and African countries. Acemoglu and Robinson (2012) depict the economic trajectory of Africa depended on the exploitation of resources harshly, while Latin American countries witnessed exploitation predominantly through land and human resources, which led colonialists to establish institutions in Latin America while African countries remained heavily dependent on agriculture and resource extraction. Therefore, the substantial differences between these regions can be the result of historical divergence

in their path dependence, leaving the question of the effect of political instability as part of their historical trajectory.

Going one step further, Miljkovic and Rimal (2008) assert that economic growth affects political stability, while vice versa does not hold because governments could alter their policies to advance economic circumstances. Although it does not affect the frequency of regular government transitions, a higher initial GDP level also reduces the likelihood of civil upheaval and irregular government change, and it helps create more stable political regimes over an extended period of time. These findings imply that governments will have a better chance of holding onto power by supporting economic growth programs, regardless of a nation's economic level. The findings are arguable since the political instability index implemented in their analysis has two components: regular and irregular government changes that are not common proxies in the literature as indicators of political instability. Although Gurgul and Lach (2013) similarly apply major and regular government changes as indicators of political instability, they reach opposite conclusions, namely that political instability has an impact on growth, while the reverse does not hold. The results on transition countries of Eastern Europe (CEE) induce them to assert and propose that frequent government changes or destabilizing political environment in the region did not arise from economic disturbances, but the insufficiency of politicians and experts who could tackle the problems related to transition.

Similar to the inconclusive findings on the effects of political instability, there are studies concluding mixed or inconclusive results that appear in the reverse direction as well. Paldam (1998) divides the themes of economic growth to reveal the difference in the influence of growth on the political environment. The countries that are undergoing economic transition are also subject to political changes. The transition period from traditional to modern economies has embodied political and economic crises. Import substitution industrialization brings about inflationary processes that shake political instability in Latin American countries, while export-led strategy alleviates instability through employment in East Asian countries. Accordingly, Haggard (1990) compares development strategies, concluding that export-led industrialization generated high-level employment, leading to an increase in real wages, thereby lessening social and political disturbances. On the other hand, the development strategy of import substitution

industrialization promoted capital-intensive sectors so that only some urban groups gained power, which enlarged income inequality and political influence between groups.

In a similar vein, Paldam claims there is no support to think that the people in resource-rich countries like GCC countries would associate the wealth creation process with their governments since the high level of wealth is resource-originated in these countries. Thus, these governments should buy stability with other means. The second theme, which is the voters' popularity, refers to the behavior of voters who hold the government responsible for economic performance. Good economic performance increases the popularity of governments. However, popularity has deficiencies; one is electoral myopia, which refers to the effect of good economic performance on political stability, which weakens after a short-term period. The other burden of the governments is the cost of the ruling, which state governments tend to lose their popularity regardless of their party, election system, or political system. Lastly, the industrial conflict that arises from economic expansion may deteriorate political stability. All in all, the effect of economic growth on political instability differs in regard to the transition stage, industrialization strategy, period of economic expansion, and labor market institutions of countries (Paldam, 1998). Auvinen (Auvinen, 1997) presents that poor economic performance, like high inflation and a large debt ratio, is associated with protests but not with rebellions, but a high level of economic development reduces both types of political conflicts.

Political stability is treated as part of governance quality by Kauffman and Kray (2002). Governance is defined by them as the traditions and institutional structures that shape the exercise of authority in a country. It encompasses the processes by which governments are elected, monitored, and replaced; assesses the government's capacity to formulate and implement sound policies; and addresses the respect that citizens and the state have for the institutions that regulate economic and social steps. In this context, governance is an integrated view of the processes, policies, and institutional arrangements necessary to ensure fair, transparent, and effective policies. From this perspective, political instability undermines economic growth by undermining the continuity of policies and deterring investors. Nonetheless, higher income levels do not assure good governance and political stability since established elites may prevent improvement in institutional quality so as to secure their existing benefits with the help of poor governance quality. Therefore, the

reverse of a vicious circle refers to the improvement in political stability and quality of governance, which leads to higher income, and as the income increases, higher political stability and quality of governance should not be expected. In conclusion, they suggest that political stability should be addressed directly rather than expecting it to improve through economic prosperity.

3.3. The Effect of Political Instability on the Other Economic Indicators

Besides the intense studies focused on the relationship between political instability and economic growth, there are other studies on political instability addressing its relationship with separate aspects of the economic performance of countries. In this respect, income inequality or distribution, fiscal policy, human capital, capital flow, saving, inflation, and investment aspects of economic performance are overviewed to examine the possible connections with economic growth. These are the most noticeable aspects, which are the reason to be included in the review, though there are other aspects like employment and international trade. The motives to focus on these aspects are interpreted around the reasons such that: (1) these indicators represent different dimensions of the economy and help to understand the far-reaching effects of political instability, (2) policy-makers can benefit in their decision-making processes, and (3) these indicators allow to cross-country comparison due to the available data that are reliable and regularly collected. Table 3.2 is established based on the studies that address diverse indicators of economic performance. Therefore, unlike Table 3.1, which classifies the studies based on economic growth, a dependent variable column has been added to clarify the aspect of interest in economic performance in relation to the link between political instability.

3.3.1. Income Inequality

The study of Alesina and Perotti (1996) examined previously the tie between political instability and economic growth. Their study also investigated the relationship between income inequality and political instability. They concluded that redistributive economic policies alleviate social tension, thereby lessening political instability. The Kaldorian effect is believed to occur in investment rate, which rises more as capital becomes concentrated in the hands of a few people, and the reduction of social tension effect works in the reverse direction. However, they claim the reduction effect outperforms the

Kaldorian effect, so that a decrease in income inequality diminishes political instability (Alesina & Perotti, 1996). Carmignani's (2001) study shows similar results in line with Alesina and Perotti. He sets out a rather different analysis in the literature by placing political instability as a transmission mechanism for the effect of income inequality on the investment that ultimately influences growth. For him, this model can have the possibility to argue that redistribution policies favor growth, in contrast with traditional Kaldorian theories. Soaring income inequalities could discourage people from attending riots and protests, as well as reduce widespread crimes and illegal activities. Further, poor people could invest more in their education because of redistributive policies, thereby increasing human capital. Venieris and Gupta (1986) split income groups to investigate the possible outcomes of redistribution to reveal whether political instability has diverse impacts on various income groups. They reach the conclusion that middle-income groups intensely accumulate savings; thus, alleviating political instability through income equality does not necessarily result in lower saving rates, but rather the opposite. Nel (2003) opposes political instability as being a transmission mechanism for the potential effect of income inequality on economic performance. He finds no significant results based on the analysis conducted on Sub-Saharan African countries. Nonetheless, higher income inequality could deepen the assessment of risk for foreign investors, thereby retarding economic growth indirectly.

In support of the contradictory conclusions on the linkage between income inequality and stability, Paldam (1998) admits there is no clear empirical evidence that reveals the statistical significance of income distribution, though he agrees on the attractiveness of income distribution and stability. Posner rejects the importance of income equality for political stability, such that destabilization occurs with the income level, not income inequality. The aforementioned impact of inequality can only be observed in the presence of poverty since high-income countries have political institutions to alleviate the disturbance linked to inequality (Posner, 1997). Posner embraces the relaxed definition of political instability, including institutional quality and democratic values; thus, it is unfeasible to assess the impact of narrowly defined political instability holding institutional quality and regime characteristics of countries constant.

3.3.2. Inflation

Aisen and Vega (2008) investigate the institutional background of the inflation problem in one of the other studies. An increase in political instability shakes the independence of central banks, thereby exposing them to political pressures. Hence, the impact of political instability on inflation volatility is more severe in developing countries, which have mostly less independent central banks. In other words, central banks can succeed in controlling inflation rates even in the case of a politically unstable environment if they can manage to stay independent. They conclude that economic freedom also alleviates the impact of political instability, in line with the central bank independence case. They confirm their arguments with the dummies that reflect the developing economies (Aisen & Veiga, 2008). At this point, the discussion of measurement can be recalled that cabinet changes may reflect different dimensions of political instability with respect to the regime types or development levels of countries.

They employ cabinet changes that account for a prime minister’s change, or a minister's positions more than 50% of changes to represent variety in political instability. Still, they also apply other political instability measures like assassinations, coups, constitutional changes, revolutions, government crises, etc., to check the robustness of their base models. All their analyses show a significant positive relationship between political instability and inflation volatility (Aisen & Veiga, 2008).

Paldam's (1987) study sought to expand upon the existing body of research by introducing a novel theoretical framework that examined the interplay between instability and inflation, with a particular focus on the distinct roles of military and civilian governments in this dynamic relationship. Weak civilian governments are more prone to high inflation possibilities that increase the frequency of regime changes, thereby creating a situation in which inflation and instability affect each other adversely. Political decisions influence inflation through different mechanisms such as inflation tax, primary push, and income policies. Governments print money to alleviate economic problems, which lowers purchasing power, thereby causing the public to distrust governments. Primary push, on the other hand, refers to the initial emergence of high inflation problems because of increasing public spending, subsidies, and wage rises. While stable governments can pursue disinflationary policies in the case of high inflation problems, unstable

governments comply with the inflationary environment by implementing policies easing inflation problems in the short term, despite the fueling effects of these policies in the long term.

The findings of Telatar and others, which reveal inflation has a negative impact only on developed and low-inflationary countries unless political freedom is introduced into the equations, support the claims of Paldam (1987). However, the effect of inflation, together with political freedom, seems to have an influence on inflation in developing countries (Telatar et al., 2009). Inflation, on the other hand, disturbs the public's consent to incumbent governments, thus increasing the demand for political change. Moreover, the emergence of unexpected inflation has higher costs than steady inflation for political regimes, so it increases the possibility of a military regime coming to power. Tough military regimes are perceived as destabilizing events for countries; he admits that they are more capable of coping with inflation-related troubles, as a paradox, giving the examples of Argentina, Chile, and Brazil (Paldam, 1987, p. 164). Partly in contrast to this, De Haan and Siermann (1996, p. 144) find that coups reduce central bank independence, which exacerbates inflation problems; thus, coups not just directly but also indirectly distort inflation rates.

3.3.3. Fiscal Policy

Although the shortcomings of the perception of instability as governmental volatility have been discussed, it allows for a more effective capture of the populist concerns of democratic governments. Taxation and government spending have attracted more attention in other studies in which political instability has been regarded as a transmission mechanism. Devereux and Wen (1998) make a distinction such that governments choose optimal taxation in politically stable environments, whereas they collect higher proportions in unstable circumstances. The tax imposed on capital reduces investment rates, hence engaging in excessive spending and getting into more debt. Moreover, with the increase in the probability of executive turnover, governments in office would like to reduce future spending in case of the possibility of gaining power from their opponents. After they show their claims, the intertemporal optimization model of consumption and spending, they then conduct an empirical analysis to test their model. They introduced the democracy index in addition to political instability. The results reveal that political

instability gives rise to government spending, and the effect multiplies when instability is combined with democracy.

The index formation of Carmignani (1999) discussed above is implemented in the inquiry of the impact of political instability on government spending. He decomposes his index into indicators again to show the diverse impacts of the indicators on government spending. The analysis indicates that the number of seats shared by the coalition government is negatively related to spending. It is consistent with the expectation that an increase in the share of seats maintains higher political stability, which lowers the pressure to spend more. On the other hand, though the duration of an executive position should also reflect stability, it is positively related to spending. Carmignani interprets the result as an extension of the tenure of a minister, which may increase the spending opportunity. Lastly, the more the left a coalition becomes, the greater its propensity to increase government spending. It is important to acknowledge the limitations of the new index created by Carmignani. The index may not fully capture the complexities of political instability and its varying impacts on less developed countries. This is due to the fact that the index's data is collected from only 14 developed countries, which may not adequately represent the diverse contexts of political instability and cabinet-related instability in less developed countries.

In addition to the magnitude of government spending, spending is frequently diverted from long-term investments to consumption by incumbent governments in order to overcome the unfavorable consequences of instability. Roubini (1991) brings forth the insufficiency of the neoclassical approach that endeavors to identify the determinants of fiscal policy, budget deficit, and seigniorage through the optimization of the preferences of policymakers and private agents. In fact, budget deficit and fiscal policy in general are partly determined by political factors, especially political instability. Without including taxation in their analysis, Roubini and Sachs (1989) conclude that the short tenure of governments and coalition governments leads to an increase in both budget deficits and the debt-GDP ratio since reaching a compromise that is necessary for cutting the budget is harder. This is because multiparty governments have diverse constituencies consisting of interest groups and ideologies that expect their interests to be fulfilled. In a similar vein, Erdem and İlgün (2017) argue that political instability, measured by cabinet change

and government crises, increases the stock of public debt. In addition, coalition governments are more likely to undermine fiscal discipline than single-party governments. These findings are supported by a panel data analysis of 49 less developed and developing countries between 1985 and 2012. De Haan and others (1999), contrary to Roubini and Sachs, argue that the existence of a coalition in power does not matter, but the number of parties in a coalition matters for fiscal policy only for central government such that more than four partners in power deteriorate discipline, while the structure general government has no effect on debt ratios.

Carmignani (2001) checks government turnovers with respect to their ideological background since governments from different ideologies and related to different lobbies have separate motivations to spend public resources in separate areas, which raises taxes, leading to lower economic growth. Accordingly, he also argues that fragmented coalitions bring about decentralized responsibilities for public spending so that every fraction of government budgets is allocated to their particular interests. He concludes that political instability creates a negative link between ideologies and economic growth. Even though Mauro (1995) does not directly assess the influence of political instability, but he finds a strong positive correlation between political instability and bureaucratic efficiency. The provision of political stability inclines states to have a more effective bureaucracy that lowers corruption. Lowering corruption has been demonstrated to help states sustain higher economic growth rates.

The unstabilizing effect of ethnic fractionalization is discussed in the previous part. Annett (2000), like Easterly and Levine (1997), considers political instability as a transmission mechanism, but unlike them, this transmission mechanism is about government consumption, not between fractionalization and economic growth. Further, he enhances the fractionalization index to include not just ethnolinguistic but also religious diversity. He established a one-sector endogenous growth model in which the probability of government overthrow is included. The government employs revenues, whether as rents to improve its own supporters, or consumption to improve excluded groups. The augmented model shows that higher fractionalization directs political instability to rise, hence making the probability of overthrows higher. Furthermore, the marginal benefit of appeasing excluded groups through employing government

consumption gets higher in more ethnically diverse countries. Both channels in the model, for him, reveal that higher diversity increases political instability, and an increase in political instability leads to higher government consumption. His model goes even further and comprises the reverse causality in a way that a rise in government consumption reduces political instability arising from fractionalization. The model is also tested empirically using different econometric tools. Empirical analyses present that higher fractionalization in societies has indirect effects on government spending through political instability. Political instability is assessed endogenously such that once political instability decreases, government consumption diminishes in line with the implications of the augmented model.

Government consumption is related to government debt ratios. Ozler and Tabellini (1991) directly investigate the linkage between external debt and political instability to set forth government decisions under politically unstable environments. Political instability directs governments to myopia, which inclines governments to value the present compared to the future. Rising instability increases demand for loans as well as decreases investment willingness in countries that could reach international loans as demanded, while political instability has mixed effects on countries whose credit is constrained and hence cannot take as many loans as demanded.

Contrary to the studies of Devereux and Wen (1998) and Carmignani (2001) that predict instability of the political system lead the government to collect taxes more, Cukierman and others (1992) show tax evasion and tax collection problems that arise with an escalation in political instability within a similar model of decisions of intertemporal governments. They criticize the existing literature by treating those problems as exogenous particularities of countries, whereas they are the consequences of certain political structures. Tax reform necessitates information, infrastructure, time, and resources, while fiscal policy is easy to implement within a current tax system. Political instability and political polarization cause incumbent governments to refrain themselves from tax policy reforms that are costly for their political future. Under a politically unstable environment, the high circulation of governments inclines them to restrain future governments from collecting taxes. Therefore, they prefer to hand over inefficient tax systems to their successors by relying heavily on seigniorage. Because of the inflation

booster effect of seigniorage, they conclude that political instability causes inflation to rise.

3.3.4. Investment Decisions

Investment decisions are one of the channels heavily focused on as being the main transmission channel of the impact of political instability on economic performance. Hence, unveiling the linkage between investment and political factors could directly benefit the topic addressed in this study. Rather than treating it as a transmission mechanism, Svensson (1998) directly investigates the impact of political instability on investment. Governments in developing economies do not improve the quality of property rights because they do not want to establish a more solid legal infrastructure so as not to bear the cost of establishment and restrain the possible tax revenues of future governments. Poor legal infrastructure results in inefficient property rights, hence leading to lower levels of private investment. Insufficient property rights reduce the return on private investments, so that potential investment decisions could be altered by alternatives. Svensson deals with the inquiry not just empirically but also by modeling an equilibrium in which government and private actors make decisions. He constructs an analytical framework to show the linkage between instability, property rights, and private investments. However, he does not explicitly provide the link that shows how the reluctance of governments in the establishment of more solid legal infrastructure for private investment and political instability are positively correlated.

Although Levine and Renelt (1992, p. 958) could not find a robust impact of political instability on economic growth, they found a robust correlation between political instability and investment share of GDP, in the same line as Svensson. Guillaumont and others (1999) slightly differ on the linkage between political instability and investment in that political instability heightens the instabilities of investment rates and terms of trade, which are considered as intermediate instabilities rather than distorting investment level directly, since political instability seems to have a significant negative impact on growth residuals when investment rates are introduced in the equations. Intermediate instabilities deteriorate the growth rate of total factor productivity, which eventually causes economic growth to diminish.

Bennett and Green (1972) find that there is no significant impact of political instability on foreign direct investment decisions, contrary to the implication of businesspeople's assertion of the importance of political stability. However, it should be noted that they admit the Feirabend index they employed could be misleading because of the political scientist's perspective in it, while economic decisions perceive political instability rather differently. Kobrin (1976) continues the question of whether business decisions take the political environment into consideration or not by investigating US foreign direct investments. He enhances political instability into three different dimensions that are actions against governments, regime types, and violence, none of which reveal significant influence on investment decisions. This conclusion is justified by claiming that political discontinuities may not disrupt economic activities unless they disrupt economic operations through nationalization, foreign exchange restrictions, market penetration, or major policy changes.

The contradictory conclusions directed Campos and others (1999) to divide instability into internal and external ones. They emphasize that the dimensions of political instability vary in the results so much that internal political instability can force governments to embrace more investment-friendly policies to maintain their power under suitable institutional environments, whereas external political instability in the MENA region consolidated the power of some governments, leading them to be reluctant to political improvements needed to attract investment.

Table 3.2. Table of the Studies on the Effect of Political Instability and Various Economic Indicators

Study	Source of Data	Periods and Countries	PI Measure	Method	Dependent Variable	Conclusion	Transmission Mechanism
(Aisen & Veiga, 2008)	CNTS	1960-1999 160 Countries	Cabinet changes	System-GMM	Inflation Volatility	Positive relationship	Central Bank independence
(Svensson, 1998)	(Alesina et al., 1996)	1960-1985 101 Countries	Propensity of government change	OLS	Private Investment	Negative relationship	Property Rights
(Carmignani, 1999)	Original Dataset	1965-1990 14 Developed Countries	Ideological Heterogeneity Cabinet Duration Polarization Coalition Context	OLS	Government Spending	Mixed	Direct relationship
(Annett, 2000)	(Easterly & Levine, 1997)	1960-1990 108 Countries	Political Victims Civil War Assassinations Coups Revolutions Riots Government Crises Cabinet Change Constitutional Change	TSLS OLS	Fractionalization Government Consumption	Positive Impact	Direct relationship
(Ozler & Tabellini, 1991)	World Handbook of Social and Political Indicators	1972-1981 55 Developing Countries	Government Change	OLS ML	External Debt	Positive Impact	Government Consumption
(Gyimah-Brempong & De Camacho, 1998)	CNTS	1970-1981 18 Latin American Countries	Coups Assassinations War Secession Revolutions Government Crises Riots Strikes Major Constitutional Changes	SEM	Human Capital	Negative Impact	Investment Public Resources
(Devereux & Wen, 1998)	(Barro & Lee, 1994)	1960-1985 52 Countries	Coup Revolutions War	Not indicated	Government Spending	Positive Impact	Opponent Limitation
(Gyimah-Brempong & Traynor, 1996)	CNTS	1975-1989 38 Sub-Saharan African Countries	Coups Assassinations War Secession Revolutions Government Crises	2SLS	Savings	Negative Impact	Investment Economic Growth

			Riots Strikes Major Constitutional Changes				
(Fosu, 2003)	Patrick McGowan (1986)	1967-1986 30 Sub-Saharan African Countries	SuccesfulCoups Unsuccessful Coups Coup Plots	OLS	Export	Negative Impact	Competitiveness
(Campos et al., 1999)	Biennen and van de Walle European Yearbook Clodfelter (1992) Polity III	1970-1990 21 MENA Countries	Civil War Coup Rebellion Year in Power War Border	Three-Equation Model	Investment	Mixed	Policy Improvement
(Cukierman et al., 1992)	The World Handbook of Political Indicators	1971-1982 79 Countries	Successful Coups Unsuccessful Coups Executive Adjustments Riots Repressions	IV	Seigniorage	Positive Impact	Tax Evasion Tax Collection Costs
(Paldam, 1987)		1946-1983 8 Latin American Countries	Coups	Kendall's τ	Inflation	Negative Impact	Public Pressure
(Posner, 1997)	IRIS BERI World Handbook	1960-1995 131 Countries	Risk of expropriation Corruption Rule of Law Freedom Protests Political Deaths Irregular execution Changes Coups	OLS 2SLS	Income Inequality	No impact	
(Bussire & Mulder, 2000)	EIU Latin American Political Yearbook Keesing's Record of World Events	1994-1997 23 Countries	Number of Effective Parties Coalition Strength Electoral Volatility Election Dates	OLS FE RE	Economic Vulnerability	Positive Impact	Pressure against Reforms

Source: Own illustration

3.3.5. Capital Flow

Similar to investment decisions, capital inflow that directly contributes to the investment level is studied by Alfaro et al. (2003) who particularly focus on foreign investment through capital inflows and institutional quality ties. The institutional quality framework in the study heavily depends on political stability indicators, which are external conflict, internal conflict, and government stability measures of the International Country Risk Guide dataset, religious tensions, ethnic tensions, and non-militarized politics, along with other legal and bureaucratic dimensions of institutional quality indicators. Their analysis shows that capital does not flow from rich to poor countries partly because of the inferior political-institutional context in poor countries. Institutional quality raises do not just directly attract foreign capital but also facilitate the positive impact of institutional quality on economic performance.

Along the same line, Busse and Hefeker (2007) examine the importance of institutions on capital inflow; they reveal the significance of the ethnic tensions besides the dimensions emphasized above. They criticize the cross-country and fixed effects analyses for their inability to account for the importance of the linkage because of the autocorrelation and endogeneity problems. Schneider and Frey (1985) criticize the negligence of the studies, whether by focusing on economic or political dimensions alone. Apart from the economic conditions of high GDP per capita, high growth, low inflation rate, budget balance, lower wage costs, and skilled workforce, political circumstances of political stability and government ideology are of high importance due to the risk of appropriation of foreign capital. They set separate models of economic-based, political-based, a mix of economic and political factors, and politico-economic models to compare their explanatory power by analyzing 54 developing countries. They reach the conclusion that *the politico-economic* model, which reveals the negative impact of political instability on foreign direct investments, excels over the other models in terms of its goodness of fit and ex-post forecasting tests.

Capital outflow shows irregular movements in the case of destabilizing processes similar to capital inflow. Alesina and Tabellini (1989) investigate the impact of uncertainty related to political instability on capital outflow and external debt, which is intensified due to the outflow. Uncertainty about future government policies discourages capital

owners since they doubt prospective redistributive and taxation policies. Right-wing governments rely on external debts to support domestic investors, whereas left-wing governments have a tendency to direct these funds to lower classes. Further, left-wing government possibility frightens lenders because of the possibility of debt repudiation as well as strict control over capital to restrict the outflow in case of government turnovers, leading to a rise in the risk premium of public debts. Political polarization and factionalization associated with political instability, for them, engender shortsightedness among economic agents, resulting in excessive accumulation of external debt, inducing capital to outflow, and lowering domestic investment rates. Besides the studies largely focusing on Latin American countries, Brada et al. (2006) examine the foreign direct investment decisions in Balkan countries, sometimes labeled as transition countries. They emphasize that political instability differs in the selected region from other countries with regard to uncertainty, such that those countries face potential military and economic interventions that amplify civil discontent. Their analysis reveals that political instability induced, whether domestically or externally, discourages foreign direct investments; thus, they highlight the regional dimension of political instability that repressed the willingness of foreign investors throughout the region.

Capital outflow leads Fosu (2003) to examine how the export performance of countries varies according to the levels of political instability. For similar reasons to growth, export performance is adversely impacted by a rise in political instability, but more sharply than the impact on growth. The more severe impact occurs because of the possibility of political instability impairing productivity, thus undermining the competitiveness of economies. Capital outflow would further deteriorate foreign investment decisions in export-related sectors that usually bear higher risks. Highly skilled labor would flee due to the escalation of political and economic risks, which are particularly of great importance for the export-oriented sectors. The shrinking of the time horizon related to instability would alter investment decisions in favor of shorter projects due to the uncertainty of long-term rules for business, and ramping risks, which again are more harmful for export-related businesses that need longer-term projects.

3.3.6. Human Capital

Though there are studies discussing human capital as being one of the main factors channeling the impact of political instability on economic growth[6], the direct linkage between human capital and political instability is rarely addressed. Gyimah-Brempong and De Camacho (1998) address the linkage between human capital and political instability, as well as the linkage between political instability and growth simultaneously. The main results show that there is a negative reciprocal relationship between instability and human capital, which they interpret this significant relationship to mean instability shortens the time horizon, causing people to reduce their investment rates in human capital, and governments also to reduce public spending on the areas of human capital development. Human capital, on the other hand, could enhance individuals' understanding of citizenship and politics, thus increasing political stability. Employing various equations allows them to interpret the indirect effect of human capital on instability, such that the indirect effect of political instability on economic growth via human capital appears to be larger than the direct effect of it.

In addition to investigating the relationship between political instability and economic growth, Gyimah-Brempong and Traynor (1999) also examine the impact of political instability on investment. Political instability not only leads to a reduction in the output of existing factors but also indirectly reduces the availability of the input factors. Investment decisions in both physical and human capital require an environment that ensures long-term planning. Nevertheless, the uncertainty of property rights, acquisition of profits, capital taxation, outcomes of investments, and operations of businesses prevent economic actors from making long-term plans. The negative impact of political instability on investments has an inter-temporal characteristic such that future impact on economic growth becomes more detrimental than the current impact. The first possible reason is that a decrease in investment reveals its effect on growth later on. Another channel could be that current political instability may serve as a catalyst for the emergence of subsequent

[6] see (Aisen & Veiga, 2013) and (Fosu, 1992))

instability, a phenomenon that has been termed *the culture of political instability*[7], thereby having a greater impact on investment and economic growth in the future.

3.3.7. Savings

Venieris and Gupta (1986, p. 874) criticize saving accounting by ignoring the social and political environments as stable, though, despite the fact that instability and uncertainty signify mostly governmental change that can influence future economic circumstances. Accordingly, in another study (Gyimah-Brempong & Traynor, 1996), they focus on the linkage between saving and political instability. They justify conducting simultaneous analysis, establishing similar measurements, similar data, and transmission mechanisms with the investment study. They claim that the existence of a negative relationship between saving rates and political instability is significant and lasts long, and the relationship occurs through investment and economic growth.

Unlike most of the literature, Fielding (2003) focuses on the matter at a cross-country level. His analysis of Israel reveals that higher instability lowers saving rates as well as increases consumption, which explains the divergence of the saving rate of Israel from the developed world. People's perceived risks related to the security of their property, property rights, and the possibility of deaths and injuries conduce them toward more consumption at the expense of savings for their future. There are four distinct aspects related to the ongoing instability in Israel, particularly in the wake of the First Intifada. The following factors have been identified as contributing to this instability: deaths of Israeli people due to politically motivated attacks, Palestinian deaths because of Israeli security forces, the rate of construction in occupied settlement areas, and the growth of migration to Israel. All dimensions of political instability seem to have a positive impact on consumption at the expense of saving rates. Further, he emphasizes that even if the Israeli forces reduce the insecurity related to the death of Israeli people, the second dimension of political instability, which is the death of Palestinian people, would soar, thereby continuing the destabilizing process of the Israeli state. Similarly, Şanlısoy and Kök (2016) focus on the case of Türkiye for the period of 1987-2006, considering that

[7] They attribute the usage of the term to the study of (Londregan & Poole, 1990), in which political culture refers to the inclination of countries to certain political processes as exampled through coups.

the political instability of Türkiye appears mostly as insurgency, cabinet structure, geopolitical risks, and coups. Their findings show a reciprocal relationship between political instability and economic growth. They interpret the positive performance of Türkiye after 2002 as the result of a single-party government after a long period of coalition governments. However, they imply that positive performance may be an outcome of the after-crisis positive trend. Further, they assert that the relatively stable environment after 2002 can be misleading, with social segregation. Even though the importance of relying on certain measurements of political instability has been employed in the study, it seems the study chose to change the scope of the political instability in the discussion part of the empirical results. This interpretation reminds us to be more careful in single-country analyses, due to the fact that studies may be prejudiced according to the perceptions of the investigator conducting the studies.

3.4. The Effect of Political Instability of Neighboring Countries on the Economic Growth of Host Countries

As can be seen in the studies in the literature, political instability has been tried to be measured and included in the analysis in terms of its different dimensions. The main difference between this research topic and previous studies is that the political instability of neighboring countries is brought into focus in the analysis. The sole study that addressed this subject, with the impact of neighbors, Ades and Chua (1997), omitted a comprehensive analysis of the multifaceted dimensions of political instability, thereby leaving the study incomplete. In addition, the relevant study was conducted only on data up to 1985. Any political unrest or crisis can damage infrastructure, labor, migration, maritime boundaries, and illegal activities across borders, since neighboring countries are affected by the spillover effect of that political unrest. Thus, they choose to focus on regional political instability. Regional political instability is derived by combining the instability of neighboring countries, simply by taking the average of the instability of the neighbors.

Murdoch and Sandler (2002, p. 99), on the other hand, obtain the index of neighboring countries by weighting the impact of neighbors according to their length of common borders with the host countries, on account of considering the longer the border, the more intense the collateral damage. Easterly and Levine (1998, pp. 130–131) criticize the

formation of a regional index just by taking the average, which could be misleading since the more powerful the neighbor is, the more influential it is on economic performance. Thus, they suggest weighing neighbors' effects with respect to their GDP or GDP growth. They also check whether their regional index is solid or not by examining GDP, capital proximity, population-weighted average, the sum of political instability, and the maximum number of political instabilities. They find a significant negative relationship between both regional and domestic political instability and economic growth. The conclusion seems to be solid even when they change the indexing method of their regional political instability. Moreno and Trehan (1997) criticize applying to bordering countries to assess the location effect because of the insufficiency to measure the effect of nearby countries without borders, giving the example of Japan such that it seems to have an effect on South Korea while not having any on Indonesia or Thailand. Therefore, they suggest applying distance as a weighting method for the neighborhood effect.

Although it does not directly inquire into the various dimensions of political instability, Murdoch and Sandler (2004) examine the linkages between war and economic growth in parallel with the study of Polachek and Sevastianova (2012) but exclusively on civil war. Furthermore, they consider the effect of civil war on neighbors. Their neighboring variable is constrained within three definitions: the first one is sharing a border with a country, the second is incorporating border length in generating an index, and the last is including countries with no border but close at a distance in the neighboring index. They reveal that civil war has not just an impact on countries themselves but also an effect on neighboring countries, lessening as distance is expanding. The spillover effect occurs through loss of human capital flight, deterioration of infrastructure, distortions of trade, and reduction in investments, etc., which all take place under the interaction of countries. The study's finding indicates that the spillover effect does not necessarily arise from common borders, as well as the effect alleviates as distance increases not only spatially but also temporally.

There are two main channels through which the effects occur. Regional political instability disrupts foreign trade so that intermediate goods, knowledge processes, and merchandise products are all negatively impacted by an increase in regional political instability. The situation is even worse for landlocked countries like Slovenia, which had

neighbors at war in 1992, which cost them 15 percent of their GNP in that year. The second channel is military spending. Even if one neighboring country experiences a rise in its political instability, it pushes the other neighbors to increase their military spending at the expense of investment policies. Their regression of regional instability on defense spending indicates that defense spending is positively related to regional instability (A. Ades & Chua, 1997). This argument supports the claim of Goldstone et al. (2004) that put forward that two or more violence-related events among bordering countries increase the risk of failure in the given country.

At this point, it should be noted that a rise in military expenditure does not directly imply an economic shrinkage. Blomberg tries to find a novel channel between political instability and economic growth in countries. For him, military spending has no direct impact on economic growth, but military spending can alleviate political instability, which in turn affects economic growth indirectly. The effect of defense spending on economic growth depends on the domination of separate effects. Firstly, regimes might consider hindering political instability through military spending as it is raising the contentment of the military. Secondly, defense spending can enhance human capital, which is favorable for economic growth. On the contrary, defense spending also has the potential to decrease alternative spending at the expense of growth. It is unclear which of the effects acting in different directions would prevail. If defense spending can reduce political instability, then it is more probable that defense spending can foster economic growth indirectly (Blomberg, 1996).

Benefiting from the approaches to neighboring impact, the analysis will be conducted to demonstrate the dimensions of political instability affecting economic growth, and at the same time, it will try to clarify the channels through which this effect occurs. In this sense, the regional nature of the study is expected to bring innovation by opening up an area of study in the political economy literature on the relationship between geopolitics and economics. Brada et al. (2006, p. 660) emphasize the omission of existing studies by concentrating overwhelmingly on domestic aspects of political instability even as political risk is associated highly with external sources; that was the case in interstate conflict, foreign trade sanctions which are embedded in Balkan countries, especially in

the 90s, which again invoke the necessity for an inquiry of political instability on the regional scale.

The possible results of the research have the potential to contain important clues in determining which political institutions countries should prioritize when developing their growth roadmaps and the priorities to be considered in their regional relations. In this context, it should be noted that there is a discrepancy between the weak performances of political stability released by the World Bank and the economic growth of some countries like Türkiye, China, etc. This difference may be an important indicator to show that the research question still awaits an answer. Another difference in this study in regard to the approach of Ades and Chua will be the weighting method. They weighed neighbors' effects equally, while weighing with respect to trade volume will be applied in this study.

3.5. Concluding Remarks on the Chapter

The literature reveals mixed findings, such that some of them indicate that the effect of political instability varies by region, ethnic composition, or model specifications. For instance, severe instability, such as irregular government changes, revolutions, or coups, tends to have a stronger negative impact than moderate or mild forms of instability. Conversely, some research suggests that political instability, with its non-threatening, formal, or moderate dimensions, may not always hinder growth. Some studies even suggest that it is possible for political instability to increase the productive capacity of a country when political instability results from the elimination of dysfunctional institutions.

The chapter also investigates the reverse causality, where economic growth influences political stability. Strong economic performance can enhance regime legitimacy, thereby reducing politically motivated violence. On the other hand, rapid growth, high urbanization rate, or modernization may exacerbate instability during transitional phases, since societal and economic transitions put pressure on existing political structures. Political instability also affects other economic indicators, such as income inequality, inflation, fiscal policy, human capital, capital flows, and savings.

The last focus is the regional dimension of political instability, where unrest in neighboring countries can expand beyond their borders, thereby disrupting trade, increasing military spending, and causing human capital flight, all of which may distort the economic performance of neighbors. A novel approach by weighting neighbors' effects based on trade volume is suggested to be able to examine how regional dynamics influence economic performance. This is particularly relevant for countries like Türkiye and China, where economic growth persists despite reported political instability levels, suggesting that further investigation is necessary to fully understand the interplay of domestic and regional factors.

CHAPTER FOUR

DATA AND METHODOLOGY

"If you torture the data long enough, nature will confess."

-Ronald H. Coase (cited by (Leamer, 1983))

4.1. Introduction

The significance of the research topic in its role in preserving the multidimensionality of political instability is not lost when converting it into a quantitative form for analysis. In this sense, the measurement of political instability constitutes the basis of the thesis study apart from the literature review, because the dimensions of political instability, how these dimensions will be handled, how these dimensions will be created with an index, and how these indices will be weighted in a healthy way to reach regional instability data, which are the question of the thesis, the effect of neighboring countries on the growth of the host country's economy stands as the most dominant working direction in quantitative measurement. As discussed in the literature review through different studies, the most important problem in these studies is not to make the data say what is desired, which is called stylized fact, but to classify the data correctly and draw new and more robust conclusions.

In order to set the stage for a robust analysis, there are several points to attach importance. Firstly, the data that covers the most comprehensive and practicable indicators in accordance with the literature should be applied to reach reliable results. Some studies on political instability apply to the data generated by the studies themselves,[8] while some others draw on collective data projects such as Cross-National Time-Series, The World

[8] see Carmignani (1999), Barro and Lee (1994), Gurgul and Lach (2013), Asteriou and Price (2001), Gupta (1990)

Handbook of Political Indicators, Correlates of War, Political Instability Task Force, Polity III and IV, International Country Risk Guide, Latin American Political Yearbook, Business Environmental Risk Intelligence, and Worldwide Governance Indicators. The features of the datasets on a global scale will be discussed to set down the most appropriate indicators of political instability.

Secondly, the extent to which the political instability of neighboring countries affects the host country is determined. It is anticipated that each of the neighboring countries will exert an influence on the host country at varying rates. At this juncture, it is imperative to effectively quantify the extent of bilateral relations, including but not limited to bilateral political relations, trade volumes, historical issues, and other pertinent factors, thereby elucidating their mutual influencing power. At this stage, the hypothesis that the strength of the effect on the neighbors can be weighed according to the trade volume of the countries will be tested. In case of insignificant or contradictory results are found as a result of weighting the effect of neighbors according to their trade volumes, the weighting will be replaced with the cumulative trade volume, apart from the annual volume.

Lastly, after determining the relevant control variables for the economic growth model, the methodology of econometric analysis will be discussed to employ the most appropriate one to the existing datasets.

4.2. Data

Studies examining the impact of the political instability of neighboring countries on economic growth require comprehensive data sets that capture multidimensional and time-series dynamics. In this context, data types such as economic growth indicators, political instability indices, trade volume data, and control variables such as human capital, fixed capital formation, and government expenditure are critical. Appropriate data selection directly affects the reliability and generalizability of the study, as missing, biased, or low-quality data can lead to biases in model predictions. In particular, indices that measure abstract concepts such as political instability should be adjusted for economic indicators to reduce the risk of multicollinearity and should have sufficient country and time coverage in the panel data structure. Moreover, the dataset should represent geographical and temporal heterogeneity, which is essential to accurately model

regional spillover effects and global shocks. Therefore, selecting data from sources that comply with international standards, compiled with transparent methodologies, and minimizing missing observations increases the methodological robustness of the study and strengthens the credibility of the findings.

4.2.1. Political Instability Data

The index of political stability and the absence of violence measure of *the World Governance Indicators* will be employed as the political instability indicator for the analysis. Various other measures of political instability will be discussed to show the reasons behind the choice of WGI.

4.2.1.1. Frequently Used Political Instability Datasets

The Political Instability Task Force dataset consists of genocides and politicides, adverse regime changes, ethnic wars, and revolutionary wars. Ethnic war type of state failure is counted in case of ethnic or religious minorities challenging the power to seek a change in their status. Revolutionary war is taken into consideration when violence is used in conflicts that emerge due to the aims of organized groups to overthrow or replace a power. Adverse regime changes, on the other hand, correspond to the major changes in patterns of governance from electoral systems to authoritarian regimes, so democratic transitions are not included in whether they bring about a state dissolution and collapse of authority or not. Genocides and politicides involve systematic violence against certain groups of the population, which they dropped from the dataset after 2010 due to the conclusion that genocides and politicides are the consequences of political instability instead of being the reasons (Marshall et al., 2019).

Frequently used data of *Cross-National Time-Series* in political instability studies includes two different subcategories, which are domestic conflict events and political data that are associated with political instability. Domestic conflict data contains assassinations, general strikes, terrorism/guerilla warfares, government crises, purges, riots, revolutions, and anti-government demonstrations, while some of the variables of political data reflect both regular events and situations, which are party fractionalizations, cabinet changes, legislations, and number of execution changes, as well as irregular

events which are coups and major constitutional changes. The domestic conflict data part of the dataset has a vast range of data, such that it covers more than a hundred years for 65 countries and more than thirty years for 198 countries (Banks & Wilson, 2024).

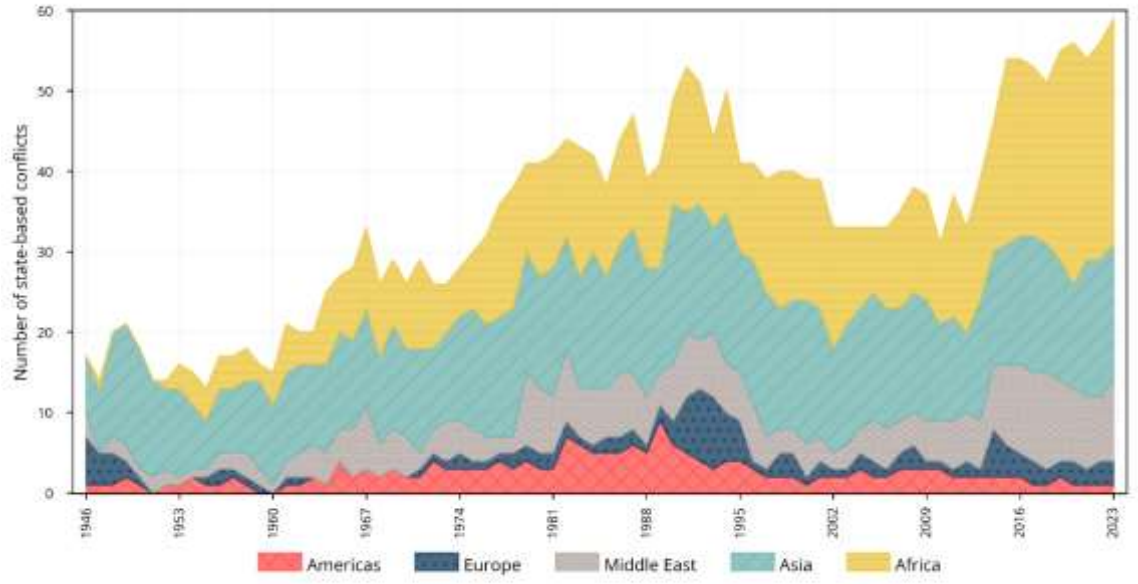
The World Handbook of Political Indicators IV records the political events sorted according to the actors, targets, and locations of the events. The project is designed to differentiate from previous studies on political crises by including low-intensity violence and conflict on a daily basis. The events, daily recorded, are aggregated to form the annual contentious political data. The events are classified under the categories of protests, political violence, political sanctions, and political relaxations. Protest demonstrations, support demonstrations, strikes, lockouts, boycotts, low-intensity protests, and violent protests are recorded under protests. Any imposition of political restrictions, censorship, covert monitoring, and political detentions and arrests corresponds to the political sanctions, whereas the removal of the restrictions, bans, penalties, arrests, martial laws, or ease of military force blockade are indexed under political relaxations. Lastly, political violence is broadly comprehended to include beating, sexual assault, torture, hijacking, and similar types of physical assault, as well as armed action such as assassinations, coups, missile attacks, and various types of explosions (Craig et al., 2019). The fourth version of the dataset covers the political events in 231 countries between 1990 and 2004.

Correlates of War dataset is used as a proxy for political instability in the study of Polachek and Sevastianova (2012) and Murdoch and Sandler (2004). The dataset is constructed based on two different criteria: the casualties of conflict should exceed 1000 battle-related deaths, and parties engaged in the conflict should have armed forces to be able to conduct battle. The dataset expanded to four different types of categories to include various appearances of war, make them comparable, and overcome the Eurocentric point of view. The categories consist of interstate wars that capture the wars between sovereign members of the interstate system, extra-state wars that occur between a state and non-state armed forces outside the borders of the state, intra-state wars that occur between organized armed forces within the borders of a state, and non-state wars that involve conflicts that take place in non-state territories or state borders between non-state parties without any state involvement. Intra-state wars could involve civil wars, regional wars, and inter-communal wars; however, any one-sided violence like genocide

is not considered an intra-state war, thus each party should have armed conflict capability (Sarkees & Wayman, 2010). The COW dataset covers the period of 1816-2007, so there is no further update for the war data.

Similar to the Correlates of War project, *the Uppsala Conflict Data Program* has recorded armed conflicts, but with a lower threshold of over 25 deaths, while COW takes into account the cases with more than 1000 deaths. UCDP divides conflicts into four different types: *interstate armed conflict* that takes place involving states, *extrastate armed conflict* that refers to the conflict that occurs between a state and outside non-state groups, *internal armed conflict* between a state and rebels within that state, and *internationalized internal conflict* corresponding to the internal conflict involving the intervention of other states. Besides the aggregate approach to armed conflict, the project also releases three different subcategories. A one-sided violence dataset is constituted based on the violence against civilians, whether directed by governments or rebel groups. This study's findings indicate that government-led violence is more severe in autocratic regimes, while rebel-led violence is prevalent in democratic regimes (Eck & Hultman, 2007). Non-state conflict dataset, on the other hand, includes conflicts that take place either between rebel or organized groups or between ethnic, religious, or ideological groups without state intervention. This type of conflict falls into three categories for the approach of the project: actors of the conflict have a high level of organization, conflicts whose actors engage with political parties, and actors that belong to separate lines of communal identities (Sundberg et al., 2012). The last subcategory is the state-based armed conflict dataset that counts the violence perpetrated by states. The utilization of the COW and UCDP projects in political instability studies prevents the capture of the multidimensionality of political instability because the instability in these studies is limited to the conflicts between different parties.

Figure 4.1. State-based conflicts by region during 1946-2023



Source: Davies et al. (2024)

Figure 4.1 is retrieved from the UCDP project, which reveals significant historical differences in the regional distribution of political instability proxied by state-based conflicts. Africa and Asia have historically been the regions most prone to state-based conflict, which can be attributed to weak state structures, tensions arising from ethnic and religious diversity, external interference, and economic inequalities. In contrast, relatively low levels of state-based conflict in Europe and the Americas can be explained by stronger institutional structures and political stability. The MENA region, on the other hand, has gradually increasing conflict rates over the period, which may reflect the increasing tensions around the region over the same period. These data suggest that political instability is closely linked not only to domestic dynamics but also to historical and geopolitical factors.

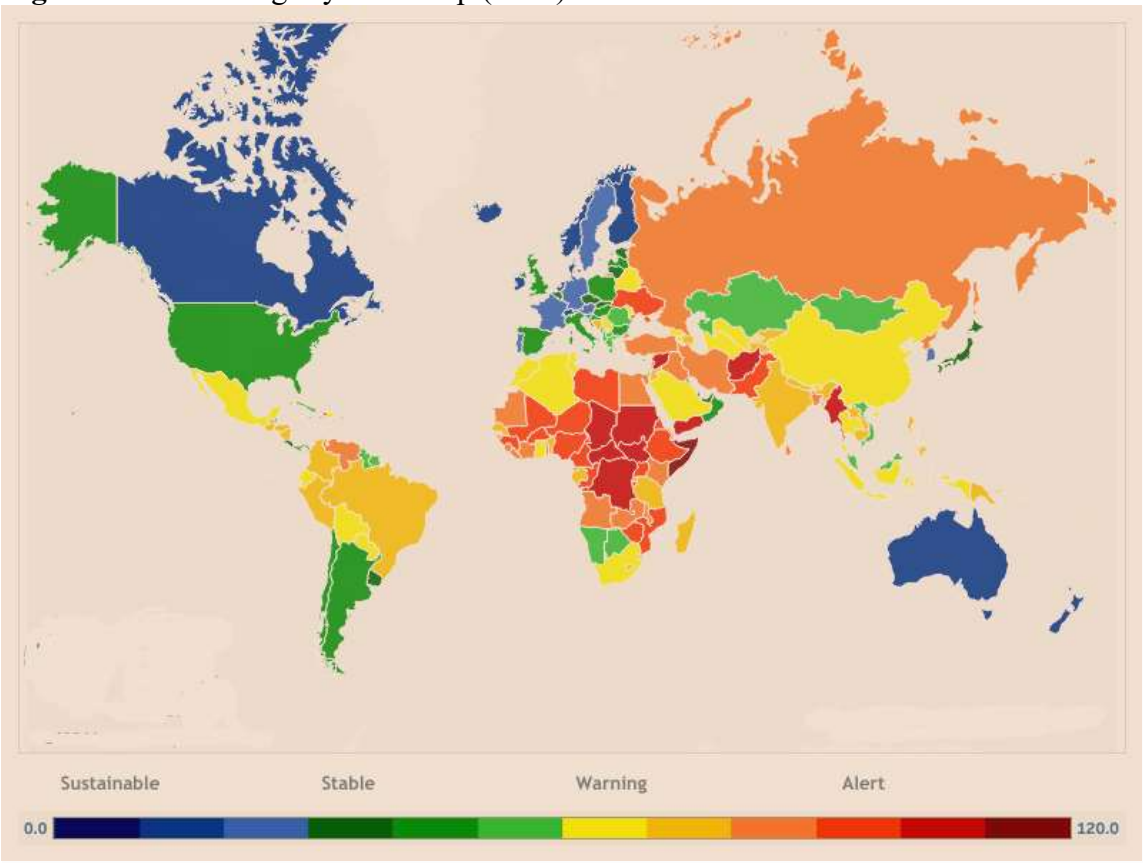
Although the *Polity project* has not counted political instability indicators directly because its main target is to assess regime type on a scale, some variables of the different versions of the project release have been utilized as complementary to political instability indicators. Jong-a-Pin (2009) employs regime changes indicator from *Polity IV*, apart from other indicators related to other sources. Campos and Nugent (2002) select the variables of regulation of execution, political participation, competition, and legislator

indicators from the *Polity III* dataset to measure the extent of regulations, since they assert that higher regulations imply lower socio-political instability.

International Country Risk Guide and *Business Environment Risk Intelligence* datasets are occasionally implemented to proxy institutional quality, though both include some dimensions of political instability. Ethnic tensions, religious tensions, internal conflict, government stability, and external conflict variables of ICRG are directly related to instability, whereas corruption, bureaucratic quality, and law and order components of the dataset signify institutional quality, as introduced in Knack and Keefer (1995) and Chen and Feng (1996). *The International Country Risk Guide* dataset covers monthly political, economic, and financial risk indicators for 141 countries since 1984 (The International Country Risk Guide Methodology, 2022).

Although the *Fragile State Index* is not encountered in political instability studies, the extent of the index is convenient to examine the stabilizing and destabilizing processes of countries. The subcategories of FSI are as follows: security threats to states, such as armed rebels, violence, and attacks on state officials and civilians are recorded under the *security apparatus* indicator, *factionalized elites* indicator refers to the fragmentation of institutions and ruling classes between political, ethnic, and religious lines that threat legitimacy of state institutions and ruling classes. *The group grievance* indicator shows the hate, crime, and tensions between groups divided according to their social, cultural, and political characteristics. *Economic decline and poverty*, which is one part of the economic impact on the fragility of the state, assess the impact of inflation, tax, unemployment, per capita income, etc., while the *uneven development* indicator focuses on the inequality perception of the people regardless of the overall economic welfare of that country.

Figure 4.2. State Fragility Heat Map (2024)



Source: (The Fund for Peace, 2024)

Figure 4.2 presents the current level of the fragility of states index of countries around the world, which is colored according to the index. The index is rated on a shading scale such that blue and green shades indicate stable regions, and yellow and red shades indicate increasing fragility. According to the graph, North America and Australia stand out as the most stable regions with shades of blue and green, which can be attributed to strong institutional structures. In Europe, the northern and western countries are generally colored green and blue, but the southern and eastern regions are yellow and orange, indicating a medium level of fragility. Africa and the Middle East are, on the other hand, the most fragile regions, and especially countries such as Somalia, Yemen and South Sudan are in the *alert* category with a high level of fragility, which can be explained by civil wars, weak central governments and external interference. In Asia, countries like Afghanistan and Myanmar stand out with red shades, while China and India show a medium level of stability with yellow and green shades. Overall, the graph shows that the high level of fragility of states is concentrated in Africa and the Middle East, while North America, Australia, and some European countries appear to be more sustainable. This

graph reflects that the fragility across countries is distributed, with a certain level of spillover among regions.

The outflow of human capital, whether as a result of displacement or seeking better opportunities, is considered another economic factor undermining state resilience under the name of *human flight and brain drain*. *State legitimacy* represents openness, representativeness of governments, and confidence of citizens in their governments. State legitimacy does not necessarily measure the democratic level of states. *Public services* indicator includes the provision of infrastructure, health, education, and security services to the public, as well as the unequal distribution of these services. *Human rights* and *the rule of law* assess civil and political freedom, protection of rights, access to information, and a judicial system that addresses sustaining justice and equality. The *demographic pressure* indicator considers the pressure on states by populations due to the demand for the maintenance of health, food, and increasing tensions or natural disasters, and other environmental problems. The refugees and internally displaced persons indicator measures the pressure because of refugee flow, since it raises security and humanitarian problems for the host states. Lastly, the *external intervention* part of the index assesses the political or economic engagement of external actors with the internal ones, like governments, armies, intelligence, communal groups, and other entities, as influencing the internal affairs of countries (The Fund for Peace, 2017).

4.2.1.2. The Worldwide Governance Indicators

Political instability can be confusing in terms of its limitations and dimensions. As discussed in the literature review, institutional quality of the political structure, economic development level, representativeness, and exclusiveness can be applied to assess the level of political instability despite the fact that countries could be politically stable in under-representative regimes. The Worldwide Governance Indicators (WGI) consist of six different dimensions of governance: voice and accountability, rule of law, control of corruption, regulatory quality, government effectiveness, and political stability and absence of violence/terrorism. The composite approach to governance enables distinguishing political stability from other institutional characteristics of political structures more easily.

The WGI combines several indicators from 35 different data sources, of which some collect subjective data relying on the perception of households and firms, in addition to the expert-evaluated variables. The project has several subjective variables based on the assumption that the perception of households and firms is essential for economic performance, regardless of the match of perception with reality. Brunetti (1997) put forward that subjective surveys, questionnaires, and evaluations are more successful in the assessment of the effect of political factors because they have stronger bonds with private sector-driven growth. Another reason for the inclusion of the perception is the necessity to assess the difference between de jure appearance and de facto implementations, and the gap stemmed from concerns to hide political failures. Further, the problems of the adjustments of political and economic executives to manipulate the numbers of certain measures to influence certain assessments can be overcome with the incorporation of the perception of various actors.

Table 4.1 presents the ranking results for countries' political instability ratings over 28 observation periods. The table includes the median instability score, minimum and maximum values, and the ranking of the 12 most unstable and 12 most stable countries according to their median values. Negative median values indicate high instability, while positive values indicate high stability.

Table 4.1. Ranking of the Political Instability of Countries

Ranking	Country	Observation	Median	Minimum	Ranking Minimum	Maximum	Ranking Maximum
1	Somalia	28	-2.513	-3.313	1	-1.949	2
2	Afghanistan	28	-2.462	-2.795	7	-2.035	1
3	Yemen, Rep.	28	-2.352	-2.996	3	-1.145	8
4	Iraq	28	-2.300	-3.180	2	-1.534	5
5	South Sudan	13	-2.287	-2.647	11	-1.157	7
6	Sudan	28	-2.219	-2.665	10	-1.549	4
7	Congo, Dem. Rep.	28	-2.173	-2.848	5	-1.626	3
8	Pakistan	28	-1.979	-2.810	6	-1.105	10
9	Nigeria	28	-1.867	-2.211	19	-0.588	21
10	Central African Republic	28	-1.852	-2.699	9	-1.120	9
11	Occupied Palestine	28	-1.792	-2.154	23	-1.166	6
12	Burundi	28	-1.671	-2.523	13	-0.784	14
…	…	…	…	…	…	…	…
199	Malta	28	1.251	0.858	192	1.598	200
200	Norway	28	1.265	0.861	193	1.608	202
201	Tuvalu	21	1.299	1.170	209	1.423	186
202	Switzerland	28	1.304	1.071	206	1.579	197
203	Aruba	20	1.308	0.993	202	1.483	193
204	Andorra	28	1.340	1.167	207	1.589	199
205	New Zealand	28	1.350	1.071	205	1.562	196
206	Iceland	28	1.362	1.022	203	1.620	204
207	Luxembourg	28	1.382	1.054	204	1.638	205
208	Finland	28	1.418	0.714	180	1.753	208
209	Liechtenstein	28	1.446	1.167	207	1.669	207
210	Greenland	15	1.925	1.495	210	1.964	210

Source: Own calculations based on (*Worldwide Governance Indicators*, 2024)

The countries that are ranked at the top of Table 4.1, such as Somalia, Afghanistan, Yemen, and Iraq, are characterized by highly negative instability levels and minimum values, ranking high in the table. This indicates that these countries are characterized by not only severe but also persistent instability because of conflict, civil war, or governance crises. In the lower ranks, countries such as Malta, Norway, Switzerland, and Finland exhibit a stable profile with high rankings. Overall, the table shows that the most unstable countries are concentrated in Africa, the Middle East, and South Asia, while Northern Europe and some island countries are stable, which is coherent with Figure 4.1 that shows the fragility of countries. Table 4.1 enables us to observe the consistency of these rankings over time, allowing us to distinguish between countries where instability is persistent, such as Somalia and Afghanistan, and countries where stability is sustainable, such as Finland and Norway.

The political stability and the absence of violence index is targeted to capture the probability of dismissal of governments by violent or illegal practices. The PSAV index is generated together with the voice and accountability index to measure the mechanism of formation, rise, and fall of governments. The dimensions of the WGI ensure the political stability measure to demonstrate measurement validity, since instability indices may suffer from extraneous variables that are blurring the lines between political instability and the other governance indicators. This is achieved whereby distinguishing the degree of effectiveness, corruption, regulatory quality, rule of law, and accountability from political stability within the context of governance dimensions, making the analyses more reliable.

The Political Stability Indicator is constructed using data from both representative and non-representative sources. Representative sources are those that cover a broad range of countries globally, while non-representative sources focus on specific regions or clusters of countries. The dataset is generated partly with data sources that are globally representative, meaning they cover all countries. For these sources, the unobserved governance is expected to be similar across the different sets of countries. For data sources that are not globally representative, the unobserved governance is expected to be the same as the distribution of unobserved governance for the entire countries. To address this challenge, the Unobserved Components Model (UCM) is employed to replace unobserved governance with an estimate of governance retrieved from the estimations on representative data sources. The data covers the period from 1996 to 2002 biannually and from 2002 to the most recent update annually (Kaufmann & Kraay, 2024).

Representative sources are listed as such:

i. *Economist Intelligence Unit (EIU):* This source provides data on factors such as orderly transfers of power, armed conflict, violent demonstrations, social unrest, and international tensions or terrorist threats. These indicators help assess the overall stability of a country's political environment. Political Terror Scale: This source measures the level of political violence and terror within a country, providing insights into the extent of state-sponsored violence or repression.
ii. *Crisis24*: This source offers a security risk rating, which evaluates the risk of violence, terrorism, and other security threats that could destabilize a country.

iii. *Institutional Profiles Database:* This source assesses the intensity of internal conflicts, including ethnic, religious, or regional tensions, as well as the activities of underground political organizations and social conflicts.

iv. *Political Risk Services (PRS):* This source evaluates government stability, internal and external conflicts, and ethnic tensions, providing a detailed view of the factors that could lead to political instability.

v. S&P Global: This source assesses risks related to protests, riots, terrorism, interstate war, and civil war. It evaluates the likelihood of these events causing damage to assets, injuring people, or disrupting normal business operations (Kaufmann & Kraay, 2024).

Non-representative sources are standardized in order to reach the same units with the preliminary estimate of governance attained by representative data sources. After that, the data for the countries that are covered in non-representative sources are then averaged with the data from the preliminary estimates. The non-representative data sources for political instability are as follows:

i. *Human Rights Measurement Initiative*: This source measures rights related to freedom from disappearance, extrajudicial execution, arbitrary political arrest, and torture or ill-treatment. These indicators provide insights into the level of state-sponsored violence and repression, which can contribute to political instability.

ii. *World Bank Enterprise Surveys (WBS)*: This source includes data on political instability as an obstacle to business, reflecting the perceptions of business leaders regarding the stability of the political environment.

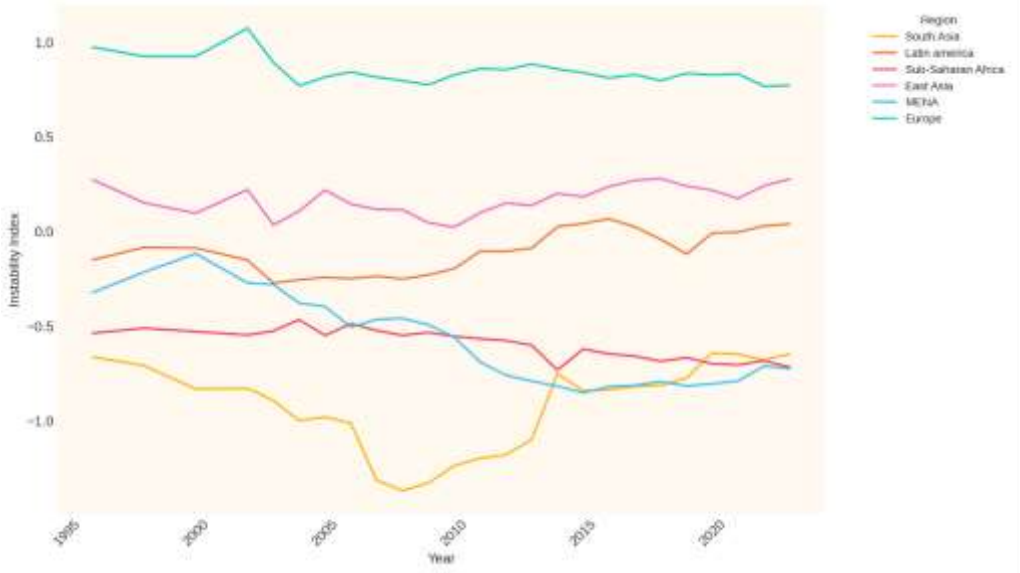
iii. *World Competitiveness Report*: This source assesses the risk of political instability, providing a measure of how likely it is that political unrest could disrupt economic activities.

iv. *World Justice Project (WJP)*: This source evaluates the extent to which civil conflict is effectively limited, providing a measure of how well a country manages internal conflicts and maintains political stability[9] (Kaufmann & Kraay, 2024).

[9] See (Kaufmann & Kraay, 2024, p. 46) for a collective list of the sources of sub-indicators

Figure 4.3 depicts the political instability index of WGI of different regions from 1996 to 2023. Positive values represent high stability, while negative values represent instability. South Asia started with the lowest stability in 1996, while its instability increased until 2010, after that, the region's instability has been recovering slightly since then. Latin America and Sub-Saharan Africa exhibit a medium level of instability, fluctuating around zero levels; Sub-Saharan Africa experienced a decline between 2010 and 2015, but remained relatively unstable. East Asia and MENA fluctuate between -0.5 and 0.5, with MENA experiencing an increase in instability after 2010 because of the Arab Spring, while East Asia is more stable. Europe stands out as the most stable region with slight fluctuations over time. Overall, Europe is the most stable region, while South Asia and MENA have experienced periods of severe instability, and other regions exhibited a medium level of stability. Figure 4.1, which is based on the fragility of countries, shows that conflicts are concentrated in Africa and the Middle East, with the latter becoming worse over time, while Figure 4.3 shows that instability in these regions is not only due to conflict but also to broader structural problems. Europe is stable in both figures, but even though fragility has declined in Asia and Latin America, instability yet considerably at high levels. This suggests that there is a correlation between the fragility of states and the political instability index of WGI, but that instability depends on more complicated factors.

Figure 4.3. Regional Political Stability



Source: Own calculations based on (*Worldwide Governance Indicators*, 2024)

When interpreting the Political Stability indicator, it is important to consider the margins of error associated with the estimates. These margins of error reflect the uncertainty inherent in measuring complex concepts like political stability, especially when relying on perceptions and expert assessments. The WGI provides confidence intervals for each country's score, allowing users to assess whether differences between countries or changes over time are statistically significant.

In summary, the *Political Stability and Absence of Violence/Terrorism indicator* in the WGI provides a valuable tool for comparing the stability of political systems across countries. It combines data from a wide range of sources to capture both the likelihood of violent conflict and the effectiveness of institutions in maintaining stability. By considering the margins of error and the underlying data sources, users can gain a nuanced understanding of political stability and its implications for governance and development. Since the main focus of the study is instability, the PSAV is reversed to achieve instability instead of political stability.

4.2.1.3. Derivation of Neighboring Instability

The derivation of the neighboring effect necessitates the employment of a weighting method to measure the combined degree of political instability. Each of the neighboring countries is expected to affect the host country at different rates. The indices of the WGI will be weighted according to the impact power of the countries on each other, and new regionally weighted datasets will be created. At this point, it is necessary to effectively quantify the extent of bilateral relations, such as bilateral political relations, trade volumes, historical issues, etc., and hence their mutual influencing power.

Baxter and Kouparitsas (2005) find that the volume of bilateral trade between countries has a robust effect on business cycle comovement. Higher bilateral trade volume leads to more correlated business cycles between countries. This suggests that the volume of trade is important as an indicator of economic ties between countries. The study also shows that trade acts as a channel for transmitting economic shocks across countries. In particular, shocks that affect all sectors rather than sector-specific shocks can be transmitted through trade. In a similar vein, Bayoumi and Eichengreen (1994) put forward

that as trade increases between countries, they synchronize to the economic shocks, making them more coherent with each other.

On the other hand, Frankel and Rose (1998) show with 30 years of data covering 21 industrialized countries that intensive bilateral trade synchronizes business cycles more. The volume of trade plays a key role in the dissemination of demand and productivity shocks across countries. In particular, the prevalence of intra-industry trade strengthens this positive relationship. Analysis using a gravity model suggests that the volume of trade increases business cycle correlation and that policies such as monetary unions can further strengthen this effect. These findings support the idea that weighting the influence of neighbors by trade volume is a valid approach to measuring economic ties and instability spillovers. Therefore, bilateral trade volumes will be applied as the measure for the magnitude of the partial impact of neighboring countries on host countries.

Gasiorowski (1986) examines the linkage between international conflicts and economic interdependence that is established through trade and capital flows. The beneficial aspect of trade, which is articulated with the gains from trade, alleviates conflict risks between countries. In contrast, the costly aspect of trade, which is the result of the distortionary impact of trade on internal production, research, and development processes, exacerbates international conflicts. Gowa and Mansfield (1993) examine how trade patterns reflect and reinforce political power asymmetries. They assert that trade volumes often reflect alliances or influence, with empirical evidence showing that the political impact of a dominant state on smaller states is stronger when trade bounds are significant. This implies a weighting mechanism in which trade volume acts as a multiplier for political influence is suitable for assessing the impact ranking of neighbors. Therefore, bilateral trade volume is employed to establish a measurement for the average political instability of neighboring countries. Considering the suggested weighting method, equation (4.1) is established to reveal how the neighboring political instability index is obtained.

$$NPI_{i,t} = \sum_{j=1}^{N_i} P_{j,t} \frac{BT_j}{TT_i}, \quad \text{if } j \geq 1 \tag{4.1}$$

Equation (4.1) shows the method to reach the political instability of neighbors, which stands for the average neighboring political instability of a host country and respectively corresponds to, $P_{j,t}$, the political instability of the j-th neighboring country of the i-th country, BT_j, bilateral trade volume between the j-th neighboring and i-th host country, and TT_j, the total trade volume of the i-th country with its neighbors. Trade data is retrieved from the *Uncomtrade* database (2025). The missing data points are collected from various datasets. Main complementary dataset for trade statistics is BACI of the CEPII institute (Gaulier & Zignago, 2010) that release bilateral trade of countries at the product levels from 1995 to onwards. Furthermore, *the World Integrated Trade Solution* dataset of the World Bank (World Bank, 2025) and the International Trade in Goods by Partner Country dataset of the IMF (International Monetary Fund, 2025) have been utilized to complete some missing data points of bilateral trade, if possible.

Missing data can indicate that trading for a country pair did not take place that year, but it is usually treated as a lack of data. For example, in the "Germany - Luxembourg" row, the years 1995-1998 appear as 0, while large values start from 1999. This does not indicate that trade suddenly started, but that the previous years were not reported. Missing data is filled in with the following steps: In each row, 29 years of trade data from 1995-2023 are analyzed as a time series. The interpolation method is implemented so that non-zero values and the years to which these values belong are identified. Thus, forecasts are based only on available data. If the missing value is in the middle of the series, the value between neighboring years is estimated by a linear line. That is, a number close to the average of the two neighboring values is calculated.

On the other hand, if the missing value is at the beginning or end of the trade data, the trend is estimated for the existing values to apply the calculated value to the missing values at the beginning and end. Secondly, in some years, even if trade values are not zero, abnormally low values are observed compared to other years between the two countries. Whether a value is extremely low is determined by a statistical threshold, such that the median and standard deviation of the series are calculated. A data point is considered abnormal if it differs by more than two standard deviations above or below the median. These outlier values are also corrected according to the interpolation method. Lastly, Puerto Rico, British Virgin Islands, Liechtenstein, Sint Maarten (Dutch part),

Virgin Islands (U.S.), Monaco, and St. Martin (French part) are excluded from the reproduction of the neighboring political instability index since they do not have adequate trade data to weight the political instability values. The Netherlands Antilles, the Cook Islands, Reunion, Jersey, the Channel Islands, and Niue are excluded because of insufficient political instability data.

Table 4.2. Ranking of the Neighboring Political Instability of Countries

Ranking	Country	Observation	Median	Minimum	Ranking Minimum	Maximum	Ranking Maximum
1	Djibouti	28	-1.913	-2.677	2	-1.275	1
2	Ethiopia	28	-1.736	-2.465	4	-0.694	12
3	Israel	28	-1.411	-2.777	1	-0.948	2
4	Chad	28	-1.411	-2.472	3	-0.566	20
5	Niger	28	-1.385	-1”.818	19	0.024	68
6	Ecuador	28	-1.300	-1.898	16	-0.525	22
7	Afghanistan	28	-1.274	-1.847	18	-0.831	4
8	Iran, Islamic Rep.	28	-1.244	-2.058	10	-0.788	7
9	Egypt, Arab Rep.	28	-1.236	-2.112	9	-0.407	30
10	Cameroon	28	-1.208	-1.668	27	-0.520	23
11	Sudan	28	-1.181	-1.606	30	-0.715	10
12	Uganda	28	-1.179	-1.408	47	-0.886	3
…	…	…	…	…	…	…	…
173	Germany	28	0.878	0.654	173	1.246	167
174	Czechia	28	0.893	0.581	169	1.263	170
175	Indonesia	28	0.898	0.731	175	1.084	160
176	New Zealand	28	0.926	0.830	178	1.378	174
177	Norway	28	1.040	0.745	176	1.396	176
178	United Kingdom	28	1.055	0.834	179	1.584	181
179	Iceland	28	1.258	0.882	180	1.571	180
180	Fiji	28	1.351	1.071	183	1.562	178
181	Tonga	28	1.351	1.071	183	1.562	178
182	Sweden	28	1.359	0.822	177	1.668	184
183	Greenland	28	1.361	1.022	181	1.620	182
184	Faroe Islands	28	1.361	1.022	181	1.620	182

Source: Own calculations based on (*Worldwide Governance Indicators*, 2024)

Table 4.2 presents the ranking of countries according to the political instability of neighboring countries over the period from 1996 to 2023. The previous Table 4.1 focused on countries' own instability; this table provides a ranking based on the impact of neighbors' instability. Djibouti, Ethiopia, and Israel, which are at the top of the rankings, reflect the severe instability of their neighbors. For example, Djibouti's ranking level of

1 indicates that its neighbors, Somalia and Yemen, are in a state of persistent instability. Similarly, Israel has a low minimum score, unlike its own political instability, as its neighbors are high conflict zones. Other countries in the highest instability rankings, like Niger and Ecuador, show fluctuations in the level of instability of their neighbors. Niger's maximum ranking of 68 indicates an improvement in instability over time, while Ecuador exhibits a persistent level of instability due to the influence of its Latin American neighbors. Countries such as Sudan (-1.181) and Uganda (-1.179) are also affected by the instability of their neighbors (e.g., South Sudan, Congo).

In the lower ranks, countries like Germany, Norway, and Sweden show that their neighbors are stable. For example, Germany's neighbors like France and the Netherlands, and Norway's neighbors like Sweden and Finland, exhibit a stable political environment, which is reflected in their minimum and maximum rankings being similar to each other. Island countries such as Fiji and Tonga do not seem to be affected by neighbor instability due to their geographical isolation. Compared to Table 4.1, countries that score high in their own instability ranking, like Somalia and Afghanistan, also score high in neighbor instability here. However, Israel scores lower on its own instability but higher on neighbor instability, reflecting the influence of regional dynamics of MENA. European countries are stable in both tables, supported by the fact that their neighbors are similarly persistent in stability. Overall, Table 4.2 shows that the instability of neighboring countries is particularly intense in regions such as Africa and the Middle East, while Europe and some island countries are positively affected by neighboring stability, pointing to the regional spillover effect of instability.

The alternative neighboring political instability index is constructed based on the Fragile State Index (2024). In order to isolate the political dimension, economic decline and uneven economic development indicators are excluded from the aggregated variable. The weighting method in equation (4.1) is employed to acquire a neighboring index. The data series, however, is limited in comparison with the WGI because it extends through the year 2006.

4.2.2. Economic Growth

Benhabib and Spiegel (1994) take the logarithmic difference of growth of income per capita. The study of Paul Romer (1994), the studies of Robert Barro (1991, 1996) and following a huge number of studies, take annual growth in income per capita to represent economic growth. However, income level can be used as a dependent variable in economic growth studies, but this choice depends on the purpose of the study and the methodological framework. While the GDP growth rate captures short- and medium-term dynamics by measuring the pace of economic growth, the level of income (GDP per capita) represents the absolute level of a country's economic well-being and is more suitable for analyzing the impact of long-term structural factors such as institutions, political environment, and human capital articulation (Hall & Jones, 1999, p. 114). Along in a similar vein, the study of (Ramirez & Loboguerrero, 2002) asserts that the income level is superior to growth rates in reflecting the long-term effect of neighbors' impact on the economic performance of host countries.

However, the use of income level to assess economic growth has some limitations. First, the income level measures accumulated welfare, not the rate of economic growth, and therefore may be insufficient to capture the short-term effects of economic policies or growth dynamics. Second, the problem of endogeneity may be more pronounced in income level analyses because income level is both affected by and can affect explanatory variables. Finally, income level models are less dynamic than the GDP growth rate and may neglect the time dimension. Therefore, the estimator choice of two-stage least squares (2SLS), which does not account for dynamic analysis and takes into consideration the endogeneity, is more suitable for the income level.

Important studies that use income level as a dependent variable in economic growth studies focus on analyzing long-term differences in economic welfare and the effects of structural factors. Hall and Jones (1999) use real GDP per capita as the dependent variable to explain income level differences across countries and use cross-sectional data analysis for 1988 to reveal the determinant role of institutions, especially social infrastructure elements such as property rights and corruption control, on economic welfare. The study argues that the level of income is an appropriate indicator for measuring the long-term effects of total factor productivity and capital accumulation. Similarly, Acemoglu,

Johnson, and Robinson (2001) model the logarithm of real GDP per capita as the dependent variable to examine the impact of colonial-era institutions on contemporary income levels. Their 1995 cross-sectional data analysis, using settler mortality rates as an instrumental variable, shows that institutions that protect property rights increase income levels and emphasize that income levels are ideal for capturing the impact of historical and institutional factors. Another study by Acemoglu and others (2019) take the logarithmic form of real GDP per capita to assess the impact of democracy on economic growth. Mankiw, Romer, and Weil (1992) use the level of real GDP per capita as the dependent variable to test the Solow growth model and assess the impact of human capital, physical capital accumulation, and population growth on income level through cross-sectional data analysis covering the period 1960-1985; this approach is chosen to represent the long-run equilibrium state of the model. Dollar and Kraay (2002) use the logarithm of real GDP per capita as the dependent variable to investigate the impact of economic growth on poverty and show that trade openness and institutional quality increase income levels and reduce poverty through panel data analysis covering the period 1960-1999. Following these studies, the logarithmic level of GDP per capita will be employed as the dependent variable to track the path dependence of economic performance.

4.2.3. Control Variables

In order to enhance the precision of measuring the impact of the interested variables on economic growth, the necessity for the inclusion of control variables to isolate the other factors that influence the growth arises. The complicated nature of economic growth depends not only on a few proximate causes of capital, labor, and technology but also on other proximate causes like the level of education, the quality of infrastructure, the inflation rate, trade openness, and, more importantly, fundamental causes like political environment, culture, geography, ethnic fragmentation, etc. If these variables are not included in the economic performance studies, the effect of the variable of interest can be assessed incorrectly because of omitted variable bias. As discussed in the economic growth chapter, the omission of human capital might prevent discussing the existence and magnitude of the convergence due to the probability of the physical capital being

overstated in the equations, since human capital is the complementary factor that improves the productivity of physical capital.

By offsetting such confounding effects, control variables strengthen the causality relationship of the model and make the estimates more reliable. Control variables increase the explained fraction of variance and improve the explanatory power of the model since econometric analyses often use multiple regression models. Moreover, when comparisons are made across countries or in time periods, control variables enhance the relevance of results across time and space by accounting for heterogeneity. Therefore, control variables are indispensable for ensuring both statistical accuracy and theoretical consistency in economic growth analyses; without control variables, models cannot adequately reflect the complicated dynamics of the real world and may lead to misleading results.

The Penn World Table (PWT) is a critical database for researchers in econometric analysis of economic growth, as it facilitates the comparison of cross-country economic data on a purchasing power parity (PPP) basis. This feature ensures the reliability and precision of the results by eliminating the distortions caused by exchange rate fluctuations or local price differences in economic growth analysis. The PWT incorporates key variables such as real GDP, capital stock, labor input, and total factor productivity, thereby playing a vital role in econometric models based on production functions, including the Cobb-Douglas function. Consistent and comprehensive capital stock data of PWT covering 183 countries serves as a reliable source of information, enabling researchers to make consistent conclusions about the role of capital accumulation in economic development (Feenstra et al., 2015).

Furthermore, the extensive time coverage of the database, which extends to 1950, offers an optimal foundation for econometric methodologies, especially panel data analyses. This extensive collection of longitudinal data offers a formidable instrument for decomposing the underlying factors of economic growth (capital, labor, technology) and elucidating growth disparities across nations. The open-access nature of the PWT enables its extensive utilization within academic studies.

However, even though the Penn World Table makes a unique contribution to econometric analyses of economic growth, both in terms of data quality and international comparability, the interruption of the data after 2019 led the study to collect necessary data from different sources, which will be discussed below.

Total factor productivity (TFP) or technological progress will not be included in the growth model due to the lack of sufficient data for most of the countries that exist in the dataset. Further, technological progress is usually calculated indirectly as the portion of GDP growth that cannot be explained by the growth of the observable inputs, which are labor and capital, and a residual of the growth models. Although this residual growth represents technological change, it is in itself a complex component that is influenced by a number of key determinants such as government policies, household preferences, natural resources, and the initial level of capital. Adding technology as a separate variable to the growth equation assumes that it is directly observable and measurable, but technological progress is inherently intangible and multi-dimensional. Technology, now accounted for as growth, cannot be isolated from other factors in an independent manner, and therefore, its inclusion in the equation may lead to misleading results rather than increasing the explanatory power of the model. Moreover, growth studies suggest that the determinants affecting factor growth rates may be largely independent of those affecting technological change. In this case, including technology as a separate variable may weaken the theoretical consistency of the model by ignoring this independence (Aghion & Howitt, 2009, pp. 106–107; Barro & Sala-i-Martin, 2004, p. 433).

Benhabib and Spiegel (1994) argue that, assuming that human capital stocks directly affect TFP growth, human capital makes a positive contribution to economic growth such that human capital affects TFP through two channels: first, by supporting the development of local technological innovations, and second, by accelerating technological catch-up and diffusion processes. In particular, the analysis for the richest countries shows that human capital levels have a positive and significant effect on TFP growth through local innovation. These findings suggest that human capital encompasses an important component of TFP, and hence, the inclusion of human capital levels in growth models, rather than including TFP as a separate variable, can largely capture the effects of TFP on growth. It is important to note, however, that it takes a cautious

approach that human capital may not fully represent TFP, recognizing that TFP may also be affected by factors other than human capital, such as institutional structures or exogenous technological shocks.

Table 4.3. Summary Statistics for the Variables

Variables	Obs	Mean	Std. dev.	Min	Max
NPI	4,172	-.202332	.7491955	-2.777	1.668
Govex	4,172	16.1931	7.331856	2.047121	115.9236
HumanCapital	4,172	12.64119	3.342643	.17	23.24768
Inflation	4,139	11.96681	266.9838	-72.729	17087.72
GFCF	4,172	22.87735	7.590739	1.675258	78.00092
PopulationGrowth	4,172	1.419419	1.575736	-10.92744	21.70034
TradeOpenness	4,172	83.91453	52.51981	10.32849	442.62
Lninf	4,139	1.327767	1.198588	-5.115996	9.746116
Labor	4,172	61.05057	10.18348	31.139	88.349
Lnrgdp	4,172	8.5168	1.472641	5.42495	11.6294

Source: Own calculations based on the sources that are depicted.

Table 4.3 summarizes the basic statistical features of the control, dependent, and interested variables to present the structure of the data. The wide range of values of the variables reflects heterogeneity across countries and periods. The variables that are examined in detail can be listed as follows:

i. NPI: Political instability in neighboring countries generally indicates an unstable environment globally, but extreme values indicate that the variation is large between countries.
ii. Govex: The diversity of government spending emphasizes the role of the efficiency of the use of public resources in economic growth.
iii. Human Capital: Differences in human capital are aimed at controlling its role in growth.
iv. Inflation: The wide range of inflation indicates that economic instability is evident in some countries.
v. GFCF: Capital formation implies that investments are supposed to influence growth.

vi. PopulationGrowth: Population growth is aimed at assessing whether pressure on resource allocation exists or not.

vii. TradeOpenness: Trade openness is considered as specialization and transfer of know-how.

viii. Labor: Diversity in labor force participation is expected to contribute to economic growth.

4.2.3.1. Inflation

Inflation is often included as an explanatory variable in economic growth analyses because the effects of price level changes on economic performance have been thoroughly studied both theoretically and empirically. Economic growth is shaped not only by factors of production such as capital accumulation, labor supply, or technological progress but also by macroeconomic stability. As one of these stability factors, inflation directly affects the decision-making processes of economic agents, resource allocation, and long-term growth potential. Therefore, the use of inflation as an explanatory variable in economic growth models allows the analysis to better reflect real-world dynamics and offers meaningful implications for policymakers.

Similarly, Robert Barro's (1996, pp. 68–69) study systematically analyzes the effects of inflation on economic growth. Barro conducts panel data analyses using a large country data set and shows that inflation rates have an inverse relationship with economic growth. In particular, a significant negative impact on growth is observed when inflation rates exceed 10%. By including inflation as an explanatory variable, Barro's model provides a better understanding of the effects of macroeconomic policies on growth. This study clearly demonstrates why inflation is an indispensable variable in economic growth analysis.

Similar to Barro (1996), Bruno and Easterly (1998) make a distinction between the levels of inflation to show the difference in the impact of inflation on economic growth. The authors argue that high inflation crises severely slow economic growth, whereas moderate inflation rates can have neutral or slightly positive effects on growth. Using an indicator variable representing inflation crises and inflation rates as explanatory variables, the authors show that the effects of inflation on growth are nonlinear. This finding

emphasizes the need to include inflation in economic growth models not only as a control variable but also to capture non-linear effects.

Fischer argues that macroeconomic stability is critical for economic growth and considers inflation as one of the main indicators of this stability. As a factor affecting the decision-making processes of economic agents, inflation can distort investment and consumption behavior by creating uncertainty. Fischer provides both a theoretical and empirical framework for understanding the effects of inflation on economic growth, such that on theoretical grounds, high inflation can lead to inefficiencies in resource allocation, reduced capital accumulation, and slower productivity growth. On the other hand, these effects are tested through panel data and cross-sectional data analyses covering a large number of countries (S. Fischer, 1993).

Currently, inflation data are released by a wide range of projects and institutions such as the IMF, the World Bank, the OECD, the United Nations, and national statistical offices, but they are often fragmented, span different time periods, and are methodologically inconsistent. In such an environment, comparative analysis at the global and historical level becomes extremely crucial. The authors of A Global Database of Inflation aim to bring together all these disparate sources into a single, integrated, and systematic dataset (Ha et al., 2023).

The dataset contains various inflation indicators, such as consumer price inflation (CPI), wholesale price inflation (WPI), GDP deflator, etc., for more than 200 countries worldwide, with broad coverage from the 1950s to 2023. The main sources used to construct the dataset include the IMF's International Financial Statistics (IFS) database, the World Bank's World Development Indicators (WDI), the United Nations' data archives, the Penn World Table, Maddison Project data, and official data of various national statistical agencies. As each of these sources provides data from different time periods and with different methodologies, the project makes an effort to perform an extensive cleaning and standardization process to harmonize these various datasets.

The dataset not only combines the available data, but also develops a systematic methodology to provide the best estimate when faced with missing or conflicting data. This results in a time series that is both reliable and consistent. In this respect, the study is particularly useful for long-run macroeconomic analysis, comparative country studies,

or studies assessing the social and political effects of inflation. The fact that the data can be accessed openly and downloaded from a single point creates significant savings in terms of both time and labor in research processes. Thus, the inflation data is retrieved from *A Global Database of Inflation* (Ha et al., 2023). Following the study of Aisen and Vega (2013, p. 154), Grier and Tullock (1989), and Levine and Renelt (1992) inflation is included in the model as one of the two variables representing macroeconomic stability. In order to correct the skewed distribution of inflation rates and normalize the effect of high inflation rates, inflation data are logarithmically transformed.

4.2.3.2. Trade Openness

In economic growth studies, trade openness is a frequently used indicator to measure a country's integration into international trade and its impact on economic growth. Trade openness is usually defined as the ratio of the sum of a country's exports and imports to its GDP and is included as an explanatory variable in economic growth models. This variable is used to assess the effects of countries' openness to trade on growth. The model is established to test that the openness of countries to foreign trade increases efficiency in resource allocation, promotes specialization based on comparative advantages, and thus supports economic growth. Following the study of Levine and Renelt (1992) and Ades and Glaeser (1999), the share of the total volume of trade to GDP is employed to represent trade openness.

Moreover, the main channels for the positive effects of trade openness on growth are that open economies gain access to advanced technologies and innovations through imports, exporting firms increase their productivity through international competition, and benefit from economies of scale through market expansion. In addition, trade openness is used to control for the effects of macroeconomic policies like exchange rate regimes or tariffs on growth and to understand the trade-off between sensitivity to global shocks and growth opportunities (Aghion & Howitt, 2009, pp. 358–369). The inclusion of trade openness in the model is also important to ensure consistency with the literature, to make the results of different studies comparable, and to estimate causal effects by addressing the endogeneity issue (Frankel & Romer, 1999).

To construct the trade openness variable, data from multiple reliable sources were collected and harmonized. For this purpose, the annual trade volume to GDP data from

the World Trade Organization (WTO) Statistics (World Trade Organization, 2024), the International Monetary Fund (IMF) database (International Monetary Fund, 2024a), the World Bank's WITS (World Integrated Trade Solution) platform (World Bank, 2024b), the World Bank Databank (World Bank, 2024a), and the IMF's International Trade in Goods (IMTS) database (International Monetary Fund, 2024b) were used. These sources have been carefully integrated to ensure consistency and coverage of export and import data; missing data have been supplemented by cross-validation from different sources. On the other hand, bilateral trade data weighted for the political instability of neighboring countries was obtained from the United Nations' UN Comtrade database (United Nations, 2024). This data is weighted to accurately reflect trade volumes between countries and the instability effects of neighboring countries. This approach is adopted to improve the robustness of the trade openness measure and to comprehensively represent international trade dynamics in the analysis.

4.2.3.3. Physical Capital

In economic growth studies, physical capital is considered a key component of productive capacity and generally represents tangible assets such as machinery, equipment, infrastructure, and buildings used in the production process. As discussed in economic growth models, especially the Solow growth model and its derivatives, physical capital is included as one of the main inputs of production and plays a critical role in increasing economic output.

Physical capital plays a central role in economic growth analysis as a fundamental factor of production that directly shapes an economy's productive capacity and long-term growth potential. Physical capital, which represents tangible assets such as machinery, equipment, infrastructure, and buildings, reflects a country's ability to produce goods and services, and a higher capital stock implies the potential to produce more economic output. While capital accumulation supports economic growth in the short and medium term according to the Solow growth model, it needs to be complemented by human capital to sustain long-term growth due to diminishing returns. The investment rate reveals the dynamics of capital accumulation by showing how much of an economy's resources are directed toward future productive capacity.

Physical capital enhances productivity by increasing the efficiency of labor; for example, modern machinery enables faster and more efficient production. Capital intensity reflects the technological and structural characteristics of an economy, and measures such as the capital-output ratio assess its contribution to economic output. Especially in developing countries, physical capital accumulation plays a critical role in the process of catching up with rich countries, as economies with low capital stocks can invest at higher rates of return. However, since the impact of physical capital interacts with other factors such as human capital, technology, and institutions, it needs to be modeled together with these factors. Therefore, physical capital is indispensable in both theoretical and empirical analyses as a proximate determinant of economic growth.

The capital stock represents the total value of physical capital available in an economy at a given point in time. This data is usually calculated using the perpetual inventory method (PIM). The PIM estimates the capital stock by adding up the accumulation of past investment (gross fixed capital formation) and then subtracting depreciation rates. The Penn World Table (PWT) is a heavily used source for capital stock data and is presented in real capital stock. The World Bank (World Bank, 2024a) and the IMF databases (International Monetary Fund, 2024a) are also used for capital stock calculations through investment data. However, the data that are not listed in the databank of the World Bank or the IMF are retrieved from UN data (United Nations, 2024a) by calculating the percentage of gross fixed capital formation to GDP from the *GDP by expenditure types at current prices* series. Following the studies of Kormendi and Meguire (1985), Barro (1991), Mankiw, Romer, and Weil (1992), Levine and Renelt (1992), and Islam (1995) that employ the share of gross fixed capital formation to GDP of Summer and Heston dataset (PWT) to represent the capital, GFCF is utilized in the study.

4.2.3.4. Human Capital

The indispensable role of human capital has been discussed in the first chapter. Human capital is considered a key component in economic growth equations because it directly affects the productivity and innovation capacity of an economy. Human capital refers to the characteristics of individuals, such as knowledge, skills, health, and experience, and these characteristics are part of the factors underpinning a country's long-term economic growth. An educated and competent workforce ensures higher productivity; it makes it

possible for workers to work more efficiently and perform complex tasks, which increases total output and economic growth.

Moreover, human capital is critical for the development of new technologies and the adaptation of existing ones, such that educated individuals contribute to research and development activities and enable innovative ideas to rise, as well as increase the efficiency of physical capital investments in a way that high-tech requires a workforce capable of utilizing it. Investments in human capital, whether in education or health, ensure the sustainability of economic growth in the long run. In economic growth models, human capital is usually included in theoretical frameworks such as the Solow growth model or endogenous growth models. In the augmentation of the Solow model, human capital is included as a factor that improves the quality of labor input, and in the Cobb-Douglas production function, total output is expressed by the relationship between physical capital, human capital, and labor. In endogenous growth models, on the other hand, in approaches such as Paul Romer (1990) or Robert Lucas (1988), human capital is directly associated with technological progress and knowledge accumulation, such that Lucas formulated the accumulation of human capital in terms of the time which individuals devote to education and learning efficiency.

A wide variety of variables that are designed to measure different dimensions of human capital are utilized in the studies analyzing the impact of human capital on economic growth. The level of education is a commonly used indicator; enrollment rates in primary, secondary and tertiary education measure educational attainment in a country, while the average years of schooling indicates how many years of education a population has received. Health indicators are also important: life expectancy measures the contribution of a healthy population to economic growth, infant mortality rates reflect the quality of health infrastructure and early loss of human capital, and health expenditure is used to measure investments in human capital.

Mankiw, Romer, and Weil (1992) and Fischer (1993) added human capital to the Solow model by using secondary school enrollment rates; Barro (1996) examined the effect of human capital on growth with variables such as life expectancy, enrollment rates, and educational attainment; Lucas (1988) modeled the accumulation of human capital through time allocated to education and learning efficiency. Benhabib and Spiegel (1992) estimate

years of schooling in the labor force to measure the human capital stock. Islam (1995, p. 1150) emphasizes the importance of treating human capital as a stock variable by covering all levels of schooling so that expected and average years of schooling become more crucial to represent the stock nature of human capital, rather than taking enrollment rates as a proxy for human capital. Miljkovic and Rimal (2008, p. 2456), on the other hand, discuss the validity of the primary enrollment rate because of the low threshold value of primary education, since most of the countries have surpassed the primary enrollment problems. Considering these arguments and the availability of data, the expected rate of schooling retrieved from the sub-indicators of the human development index of the UN (United Nations, 2024a) will be applied to measure human capital.

4.2.3.5. Population Growth

Population growth is a key demographic factor affecting an economy's labor supply, consumption demand, and resource allocation and can have both positive and negative effects on economic growth (Kelley & Schmidt, 1995, p. 554). According to the Solow growth model, population growth represents the growth of labor input and can contribute to increasing economic output. However, high population growth can have a dilution effect on capital accumulation, as fixed capital and resources are shared among more people, which can reduce output per capita. Bucci and others (2019, p. 12) confirm that population growth has a dilutive effect on per capita human capital accumulation. Uneducated newborns reduce the available stock of per capita human capital, and this effect constrains education and, hence, economic growth, especially in countries with high population growth.

Population growth is occasionally associated with a negative coefficient in economic growth models because high growth rates can limit the growth of per capita income, especially in low-income countries. Moreover, population growth shapes the allocation of economic resources between consumption and investment by affecting the dependency ratio. According to Bloom and others, countries experiencing low population growth or demographic transition can benefit from a *demographic dividend*, as the share of the working-age population increases and economic productivity rises. They argue that the demographic transition supports economic growth by increasing the share of the working-age population and that this effect can be strengthened by education, health, and labor

market policies (Bloom et al., 2003, pp. 39–42). Conversely, high population growth can put pressure on infrastructure, education, and health services, limiting growth potential. The importance of population growth is linked to the sustainability of economic growth, resource allocation, and convergence processes; therefore, it is a standard control variable in growth models.

In spite of the contradictory arguments on the impact direction of population growth, it can capture some portion of the economic growth. Following the studies of Kormendi and Meguire (1985), Mankiw, Romer, and Weil (1992), Levine and Renelt (1992), Grier and Tullock (1989), and Islam (1995), the study will incorporate the population growth variable in the economic growth equation, implementing the data retrieved from the World Bank database (World Bank, 2024a).

4.2.3.6. Government Expenditure

Government spending is often treated as an important variable in economic growth analyses because it has both direct and indirect effects on economic growth. These effects can be positive or negative depending on the type of expenditure, such as infrastructure, education, health, defense, etc., the level of economic development, the method of financing (tax, debt, or money printing), and expenditure efficiency.

The empirical literature confirms that the impact of government spending on economic growth varies depending on the type of spending and the economic context. According to Devarajan and others, some studies show that public infrastructure spending increases private sector productivity and contributes significantly to economic growth. In particular, the return on infrastructure investments can be higher than private capital investments, which makes it imperative to consider public expenditures in growth analyses. Similarly, productive expenditures such as education and health promote economic growth, whereas consumption expenditures have neutral or negative effects. These findings emphasize the need to include the composition of government spending in the analysis to understand its impact on growth (Devarajan et al., 1996).

The impact of government spending on economic growth is also related to technological progress and innovation, such that within the framework of endogenous growth theory, public investment in R&D promotes economies of scale and growth by stimulating

technological innovation. This shows why government spending is critical in growth analyses, especially in advanced economies (Glomm & Ravikumar, 1997). They also confirm with a theoretical model that productive government spending, such as education and infrastructure, promotes long-term growth by supporting human and physical capital accumulation. These studies show that the inclusion of government spending in economic growth analyses is essential for both short-term demand management and long-term productivity growth. Following the leading studies of Barro (1991), Sala-i Martin (1997), Barro and Sala-i Martin (1992), Tavares and Wacziarg (2001), government expenditure that is retrieved from the IMF database (International Monetary Fund, 2024a) and the World Bank database (World Bank, 2024a) is included in the model.

4.2.3.7. Labor

Labor is considered another proximate factor of production in economic growth analyses, and therefore, its inclusion in economic growth models is indispensable. Labor not only contributes directly to the production process but also plays an important role in human capital accumulation, technological progress, and the effectiveness of economic policies. The impact of the labor force on economic growth is addressed through its quantitative and qualitative dimensions. On the other hand, it is noted that the labor force decreases when human capital is included in the equation.

Labor force growth does not have as strong an impact as physical capital growth in explaining per capita income growth. This suggests that the role of the labor force in economic growth is more related to the quality of human capital, which is proxied by the level of education in the study. Benhabib and Spiegel state that labor force data can be problematic in terms of accuracy, especially in less developed countries. Therefore, the analysis is done using both labor force data and population data. The results are quite similar to those obtained with labor force data when population growth is used (Benhabib & Spiegel, 1992, p. 147). This indicates that the effects of labor force and population growth on economic growth are close to each other in the analysis. Therefore, in this study, labor and population growth will be considered as interchangeable. In order to represent the labor, the labor force participation rate is retrieved from the World Bank database (World Bank, 2024a) rather than the International Labor Organization, because of the large number of missing values in the ILO dataset.

4.3. Methodology

This study examines the impact of political instability on economic growth based on the theoretical models in the economic growth literature. Neoclassical growth (Solow, 1956)and endogenous growth theories(Lucas, 1988; P. M. Romer, 1986) argue that factors such as physical capital, human capital, and technological progress determine economic growth. However, these models often ignore the role of institutional and political factors. Political instability plays an important role in growth by affecting investment, policy effectiveness, and economic confidence (Alesina et al., 1996). In this context, we develop a panel data model that explicitly takes political instability into account, in line with neoclassical and endogenous growth models. The model aims to analyze the impact of political instability on economic growth by controlling for country-specific heterogeneities and global economic shocks. According to the data and literature focused on the question, equation (4.2) shows the baseline model for the analysis of the linkage between economic growth and neighboring political instability.

Table 4.4. Correlation Matrix for the Variables

	lnrgdp	**NPI**	**GFCF**	**Govex**	**TrOp**	**HC**	**PopGr**	**lninf**	**labor**
lnrgdp	1.00								
NPI	-0.53	1.00							
GFCF	0.10	0.02	1.00						
Govex	0.24	-0.23	0.08	1.00					
TrOp	0.35	-0.15	0.15	0.08	1.00				
HC	0.81	-0.47	0.09	0.29	0.25	1.00			
PopGr	-0.26	0.28	0.03	-0.14	-0.07	-0.45	1.00		
lninf	-0.31	0.21	-0.05	-0.13	-0.14	-0.22	0.03	1.00	
labor	-0.06	-0.07	0.09	-0.03	-0.03	-0.08	0.20	-0.04	1.00

Source: Own calculations

The correlation matrix reflects the linear relationships between the variables, revealing the dynamics between economic growth and political instability of neighboring countries and other factors. Economic growth exhibits a strong positive correlation with human capital and a weaker positive link with trade openness, suggesting a link between education and openness to growth. The negative correlation between NPI and economic growth indicates that political instability is inversely related to growth, but does not prove the causality that the study seeks for. Further, a negative preliminary relationship with political instability supports the need for endogeneity correction of the model. The NPI exhibits negative correlations with human capital and government spending and positive

correlations with population growth and inflation, which implies that instability may be linked to macroeconomic indicators. Capital formation and government spending show weak positive correlations with economic growth, while inflation and population growth show negative correlations with growth. Low correlations of labor force participation with other variables question labor's link to economic dynamics. In addition to the control variables, the growth variable exhibits structural trends over time. These trends may arise from unobserved or not explicitly included in the model, such as technological progress, globalization, demographic changes, or the long-term effects of economic policies. Especially, when the dependent variables are in the logarithmic form in an economic study, it approximately measures the average growth for a given period (Wooldridge, 2002, p. 315). In the model, the time trend is included to capture the long-term deterministic trends in economic growth and to reduce the potential bias effect of these trends on the coefficient estimates of other explanatory variables. The incorporation of the time trend is especially important when using a fixed effects model, because while the FE model controls for country-specific fixed factors, common time-varying trends can lead to correlations in the error term if not included in the model. For example, factors such as human capital or international trade integration can systematically affect economic growth in all countries, and if these effects are not explicitly modeled, the coefficients of the NPI or other control variables may be estimated incorrectly. Since our panel covers a relatively long time period, time trends are indispensable to control for the impact of structural changes. Thus, the impact of NPI on economic growth can be estimated more precisely, isolated from the long-term trends.

Table 4.5. Variance Inflation Factor of the Variables

Variable	VIF	1/VIF
HumanCapital	1.66	0.601032
NPI	1.37	0.728518
PopGR	1.32	0.757981
Govex	1.11	0.897637
TrOp	1.10	0.911794
lninf	1.09	0.919564
labor	1.08	0.929139
GFCF	1.05	0.951823
Mean VIF	1.22	

Source: Own calculations

The variance inflation factor (VIF) test was employed to evaluate the risk of multicollinearity. VIF values, on the other hand, are used to assess the impact of potential correlations between explanatory variables in a model on standard errors. The findings that are presented in Table 4.5 indicate that the VIF values for all variables ranged from 1.05 to 1.66, with an average VIF value of 1.22. The VIF values for all variables were found to be less than 4 or 10, which is the commonly accepted threshold for multicollinearity (O'Brien, 2007, p. 684). This finding indicates that multicollinearity is not a significant concern in the model. The highest VIF value was observed for human capital as 1.66, which is consistent with the strong association with economic growth in the correlation matrix (r = 0.81) and moderate correlations with other variables. The political instability index and the low VIF values of the other variables support the stability of the model's estimates and the reliability of the standard errors. These findings suggest that the model's variable selection is appropriate and free from multicollinearity bias.

4.3.1. 2SLS-FE Estimation

In economic analysis, the OLS method produces consistent and robust estimates under the assumption that the independent variables are exogenous. However the endogeneity problem arises when the independent variables are in a reciprocal causal relationship with the dependent variable or correlated with unobserved factors, as in many economic models. In this case, OLS estimates become biased and inconsistent due to the correlation between the error term and the independent variables. 2SLS overcomes this limitation by adopting an instrumental variable approach to address the endogeneity problem. 2SLS follows a two-stage process. In the first stage, the endogenous independent variable is regressed using exogenous instruments so that this step produces an estimate that removes the correlation of the variable with the error term. In the second stage, the dependent variable is regressed using these estimated values. This method provides consistent estimates in case of the instruments are exogenous and have a sufficiently strong relationship with the independent variable. OLS cannot handle such a correction and produces misleading results in the presence of endogeneity (Jonston & Dinardo, 1997, pp. 153–157).

In our analysis of the relationship between economic growth and political instability, the two-stage least squares (2SLS) method is preferred to estimate the effect of the political instability index (NPI) on economic growth. The main reason for this choice is that the NPI is discussed as being an endogenous variable in the related literature and this endogeneity leads to biased and inconsistent estimates in standard ordinary least squares (OLS) or fixed effects (FE) models. In the previous section, it was widely discussed in the literature that there is a reciprocal causality relationship between political instability and economic growth. For example, political stability may favor economic growth, while economic growth may strengthen political stability. This bidirectional relationship causes the NPI to be correlated with the error term, which undermines the reliability of OLS-FE estimates. Brunetti emphasizes that the problem of simultaneity is an important obstacle in studies on the relationship between political processes and economic growth. While it is generally assumed that political factors, such as government stability, affect economic growth, theoretically economic growth can also shape political institutions. For example, low government stability can undermine growth through inefficient policies or investment uncertainty, while low growth can increase the likelihood of government change. This bidirectional causality causes OLS analyses to fail to identify the direction of causality and produce biased estimates. Although instrumental variable methods have been proposed to solve the problem, most studies in the literature ignore this problem as it is difficult to find suitable instruments in cross-country data (A. Brunetti, 1997, p. 165).

$$\ln(rgdp_{it}) = \beta_0 + \beta_1 NPI_{it} + \beta_2 X_{it} + \epsilon_{it} \quad (4.2)$$

The 2SLS model is applied with fixed effects in a panel data structure and estimates the NPI effect of political instability on economic growth. The model consists of a two-stage process and is mathematically expressed as follows. The equation below represents the complete model specification, which will be reestimated with diverse model specifications.

$$NPI_{it} = \pi_0 + \pi_1 L.NPI_{it} + \pi_2 GFCF_{it} + \pi_3 Govex_{it} + \pi_4 TradeOpenness_{it} + \pi_5 HumanCapital_{it} + \pi_6 PopulationGrowth_{it} + \pi_7 \ln(inf_{it}) + \pi_8 trend_t + \pi_9 labor_t + \sum_{k=2009,2020} \pi_k D_{k,t} + u_i + v_{it} \quad (4.3)$$

The endogenous variable NPI_{it} is estimated in the first stage, as shown in equation (4.3), by employing the lagged value of NPI and other explanatory control variables. In this stage, the estimated value of NPI, $\widehat{NPI}$ is calculated to be utilized in the second stage. ∑k=2009,2020 represents the dummy variables for the relevant years in order to capture the specific effect of global economic shocks. The NPI may be correlated with the error term due to a two-way causal relationship with economic growth or correlation with unobserved factors. This makes direct OLS-FE estimates unreliable. The first stage aims to address this potential endogeneity problem by transforming the NPI into an estimate uncorrelated with the error term.

$$ln(rgdp_{it}) = \beta_0 + \beta_1 \widehat{NPI_{it}} + \beta_2 GFCF_{it} + \beta_3 Govex_{it} + \beta_4 TradeOpenness_{it} + \beta_5 HumanCapital_{it} + \beta_6 PopulationGrowth_{it} + labor_{it} + \beta_7 \ln(inf_{it}) + \beta_8 trend_t + \beta_9 labor_t + \sum_{k=2009,2020} \beta_k D_{k,t} + u_i + \epsilon_{it} \quad (4.4)$$

In the second stage, as shown in the equation (4.4), lnrgdp is estimated using a fixed effects regression with the $\widehat{NPI}$ and exogenous control variables of gross fixed capital formation, government expenditure, trade openness, human capital, population growth, labor, the natural logarithm of inflation, time trend and year dummy variables. Fixed effects continue to control for country-specific heterogeneity so that estimates focus on within-country time variation, and the effects of country-specific unobserved factors like fixed institutional characteristics are eliminated. Year dummy variables (2009, 2020) control for specific global economic shocks.

The second stage aims to estimate lnrgdp, using the estimated political instability index $\widehat{NPI}$ obtained in the first stage and other exogenous control variables. This stage aims to

measure the impact of neighboring political instability on economic growth in a potentially endogeneity-free way of estimation. By making the $\widehat{NPI}$ produced in the first stage uncorrelated with the error term, the second stage regression removes the endogeneity problem and consistently represents the impact of NPI on economic growth.

The main reason for including fixed effects FE in our 2SLS model is the need to control for country-specific unobserved heterogeneity in our cleaned panel data structure with 172 countries. In economic growth analyses, unobserved fixed characteristics across countries, such as geographical location, institutional structures, cultural factors, or historical background, have a systematic effect on the dependent variable lnrgdp. These country-specific factors may be correlated with, for example, a country's political instability index or other explanatory variables. If these factors are not controlled for in the model, the correlation between the error term and the explanatory variables arises, leading to bias in standard OLS or 2SLS estimates.

4.3.2. Testing for Endogeneity

As discussed in the previous chapter, it is often emphasized that the relationship between political instability and economic growth involves mutual causality (Alesina et al., 1996; Berthélemy et al., 2000; Gyimah-Brempong & Traynor, 1999). Political instability can negatively affect economic growth; for example, political unrest can reduce investment, reduce the effectiveness of economic policies, or undermine confidence. At the same time, economic growth can also affect political stability; high growth can enhance stability by increasing social welfare, while low growth can trigger social unrest and instability, a bidirectional relationship that raises the possibility that the indicator of political instability is endogenous. Endogeneity leads to biased and inconsistent estimates in standard regression models when neighboring political instability is correlated with the error term. Therefore, as a first step in our analysis, we conduct an endogeneity test to verify the endogeneity of the neighboring political instability. This test will confirm whether the neighboring political instability is endogenous or not.

The 2SLS model uses an instrument to address the endogeneity of NPI. However, the validity of this instrumental variable approach depends on the NPI being truly endogenous. The Durbin-Wu-Hausman test justifies the appropriateness of the 2SLS

model by testing the endogeneity of NPI. The test checks whether the 2SLS estimates are significantly different from the OLS-FE estimates when endogeneity is corrected. If the test does not confirm endogeneity, a different model that does not account for endogeneity may be preferred, which improves the efficiency of the model. The test empirically tests this critical assumption of the methodology and addresses the justification for the implementation of 2SLS.

Durbin-Wu-Hausman test checks whether the NPI is correlated with the error term. The test follows a two-stage process: In the first stage, the political instability of the neighboring countries is estimated using the endogenous variable, its first and second lags as instruments, and other exogenous variables that are included in the model, recording the residuals generated in this stage. In the second stage, these residuals are added to the main regression model and tested for significance. If the residuals are significant, this indicates that the NPI is endogenous, since the residuals represent the correlation of the NPI with the error term. This method produces reliable results, especially in panel data models, when country-specific heterogeneity is controlled for using fixed effects. If the test confirms that the NPI is endogenous, the result suggests the necessity of building a model to account for endogeneity.

$$NPI_{it} = \pi_0 + \pi_1 L.NPI_{it} + \pi_2 L2.NPI_{it} + \pi X_{it} + u_i + v_{it} \quad (4.5)$$

In the first stage, equation (4.5) presents the estimation of neighboring political instability through lagged values of NPI and exogenous control variables, which are capital, government expenditure, trade openness, human capital, population growth, logarithmic values of inflation, trend, and time dummies. The components u_i and v_{it} represent country-specific fixed effects and first-stage error terms, respectively. The residuals from this regression ($\hat{v}_{it}$) represent the part of the NPI not explained by the instruments and were saved for the next stage. The power of the instruments will be confirmed by the F-statistic of the first-stage regression, with a high F-value indicating that the instruments are powerful, or a low F-value indicating that the instruments are weak.

$$ln(rgdp_{it}) = \beta_0 + \beta_1 NPI_{it} + X_{it}\beta + \gamma\hat{v}_{it} + u_i + \epsilon_{it} \quad (4.6)$$

In the second stage, as can be seen in the equation of (4.6), the first-stage residuals were added to the main economic growth model, and this model was estimated using fixed effects. The main model takes the natural logarithm of real GDP as the dependent variable and includes NPI and other control variables as independent variables. The addition of the first-stage residuals to the model was used to test the correlation of NPI with the error term. The hypothesis test for the significance of the coefficient of the residuals was formulated in equation (4.7) such that the null hypothesis assumes that the coefficient of the residuals is zero and, therefore, NPI is exogenous; the alternative hypothesis assumes that the coefficient of the residuals is different from zero and NPI is endogenous. The test result shows whether the coefficient of the residuals is statistically significant or not.

$$H_0: \gamma = 0 \text{ NPI is exogenous}$$
$$H_1: \gamma \neq 0 \text{ NPI is endogenous} \quad (4.7)$$

As a result of the Durbin-Wu-Hausman test, if NPI exhibits a significant correlation between economic growth and the residuals, the endogenous nature of NPI may lead to biased estimates in standard least squares or fixed effects models. Various methods can be considered to address endogeneity, such as instrumental variable approaches, control function methods, or dynamic panel data models[10]. In this context, including instrumental variables stands out as a viable option given the presence of robust instruments and the characteristics of the panel data structure; however, alternative methods can also be examined to test the robustness of the model. The rejection of the null hypothesis confirms the need for an estimation method that addresses the endogeneity issue and provides a methodological basis for how to address this issue in subsequent analyses.

4.3.3. Weak Instruments Test

Weak instrument test is performed to assess whether the instrument used in the 2SLS model has a sufficiently strong correlation with the lagged value of NPI, the endogenous

[10] See Robustness Checks part for the results of dynamic panel models.

variable NPI. Weak instruments can lead to bias and low statistical power in 2SLS estimates, which threatens the reliability of the coefficients (Staiger & Stock, 1997, pp. 557–558). The overidentification test is not applicable as our model is just identified, but the strength, or relevance in other terms, of the instrument is critical. Weak instrument testing is a standard step to increase methodological robustness and verify the relevance of the instrument, especially in endogeneity analysis such as economic growth.

The weak instrument test measures the strength of the correlation of the lagged value of the instrument NPI with the endogenous variable NPI in a first-stage regression. In a just-identified model, this is usually done using the first-stage F-statistic. The test uses Staiger and Stock's (1997) thresholds to assess whether the instrument is weak or not.

4.3.4. Testing the Choice of Fixed Effect Estimation

The main purpose of the Hausman test is to test whether country-specific effects are correlated with the explanatory variables u_i. The FE model assumes that u_i is correlated with the explanatory variables and controls for these effects with country-specific constant terms. In contrast, the RE model assumes that u_i is uncorrelated with the explanatory variables and treats these effects as a random error component. If u_i is correlated with the explanatory variables, the RE model produces inconsistent estimates because this correlation leads to a false relationship between the error term and the explanatory variables. The Hausman test tests for the presence of this correlation by comparing the coefficients of the FE and RE estimates.

$$H_0: Cov(u_i, X_{it}) = 0 \text{ country-specific effects are uncorrelated with explanatory variables}$$
$$H_1: Cov(u_i, X_{it}) \neq 0 \text{ country-specific effects are correlated with explanatory variables} \quad (4.8)$$

Model selection is based on the necessity of our panel data structure to control for country-specific unobserved heterogeneity, such as institutional structures, geographical factors, historical background, landlockedness, etc. The Hausman test guides model selection by assessing whether this heterogeneity is correlated with explanatory variables.

In economic growth models, country-specific effects are expected to be correlated with explanatory variables, especially with NPI for this study. For example, the institutional quality of a country may affect both NPI and economic growth, leading to a correlation between u_i and NPI. The Hausman test empirically assesses this correlation. Failure to reject the null hypothesis in equation (4.8) H_0 indicates that the random effect model is preferable to the fixed effect model, while rejection of the null hypothesis indicates that fixed effects are more efficient.

$$H = \left(\widehat{\theta_{FE}} - \widehat{\theta_{RE}}\right)' \left[\mathrm{Var}\left(\widehat{\theta_{FE}}\right) - \mathrm{Var}\left(\widehat{\theta_{RE}}\right)\right]^{-1} \left(\widehat{\theta_{FE}} - \widehat{\theta_{RE}}\right) \tag{4.9}$$

The basic equation (4.9) of this method evaluates the difference between the coefficient vectors of the two models with a measure based on the variance of this difference. In the equation (4.9), the difference between the coefficient vector $\widehat{\theta_{FE}}$ from the fixed effects model and the coefficient vector $\widehat{\theta_{RE}}$ from the random effects model is calculated. This difference is weighted by the inverse of the difference of the variance-covariance matrices of the coefficients of both models. This variance difference is the difference between the variance $\mathrm{Var}\left(\widehat{\theta_{FE}}\right)$ of the fixed effects model and $\mathrm{Var}\left(\widehat{\theta_{RE}}\right)$ of the random effects model. This weighting is necessary to accurately measure the statistical significance of the coefficient differences (Greene, 2012, pp. 419–421).

4.3.5. Testing for Autocorrelation

Autocorrelation is the correlation of error terms over time in panel data models and is a common problem in analyses involving time series dynamics such as economic growth. The effect of the neighboring political instability index on economic growth is estimated with the 2SLS-FE model. The model includes fixed effects FE, partial time fixed effects (2009, 2020 dummies and trend) and corrects the endogeneity of the NPI with the lagged instrument of the NPI. The autocorrelation test verifies the reliability of the model's standard errors and the consistency of the estimates by assessing whether the error terms are dependent over time. The Wooldridge test is an effective and common method for detecting first-order autocorrelation (AR(1)) in panel data because it uses a simple auxiliary regression approach and accommodates panel data structure (Drukker, 2003, pp. 168–169).

Autocorrelation testing is critical for econometric analysis because economic growth depends on time-related dynamics like the persistence of political instability, economic cycles, etc. For example, shocks to economic growth in one country can affect the error terms in subsequent years, leading to autocorrelation. If there is autocorrelation, the standard errors are incorrectly estimated and the significance tests of the coefficients can be misleading. The Wooldridge test identifies this problem and calls for the use of robust standard errors.

$$\Delta\widehat{\epsilon_{it}} = \alpha + \rho\widehat{\epsilon_{i,t-1}} + \nu_{it} \quad (4.10)$$

The basic logic of the Wooldridge test is based on an auxiliary regression that examines the relationship of error terms with one-period lags. The test assesses the first-order autocorrelation (AR(1)) of error terms in the panel data structure by modeling it as in equation (4.10), where $\widehat{\epsilon_{it}}$ is the residuals obtained from the model, $\widehat{\epsilon_{i,t-1}}$ is the one-period lag of these error terms, ρ is the autocorrelation coefficient and ν_{it} is the error term of the auxiliary regression. The null hypothesis of the test assumes that there is no autocorrelation in the error terms; the alternative hypothesis states that there is autocorrelation. To adapt this test to panel data, Wooldridge (2002) suggests using the differences of the residuals instead of the error terms. In practice, the test runs a regression of the differences of the model's residuals on the prior period residuals and evaluates the significance of ρ with an F-test.

4.3.6. Testing for Heteroskedasticity

Heteroskedasticity is the non-constant variance of error terms in regression models and is a common problem in panel data analysis, especially in studies with heterogeneous dynamics such as economic growth. The heteroskedasticity test assesses whether the variance of the error terms is constant across countries. The Modified Wald test is an appropriate method to test for group-wise, country-specific for this study, heteroskedasticity in panel data models, and is compatible with fixed effects models (Baum, 2001).

Heteroskedasticity is critical to the analysis because economic growth can exhibit heterogeneous variances across countries due to different economic structures, levels of

political instability, and different responses to external shocks. For example, economic growth may be more stable in developed countries, while shocks to political instability in developing countries may lead to higher variance in the error terms. If heteroskedasticity is present, standard errors are misestimated, and significance tests of coefficients can be misleading. The Modified Wald test detects this problem and requires a re-evaluation of the clustered standard errors of the model.

$$\mathrm{Var}(\epsilon_{it}) = \sigma_i^2 \; for\; all\; t, \qquad i = 1, \ldots, N$$

$$W = \sum_{i=1}^{N} \frac{\left(\widehat{\sigma_i^2} - \widehat{\sigma^2}\right)^2}{\mathrm{Var}\left(\widehat{\sigma_i^2}\right)} \tag{4.11}$$

$$H_0 : \sigma_i^2 = \sigma^2 \; for\; all\; i$$

$$H_1 : \sigma_i^2 \neq \sigma^2 \; for\; some\; i \tag{4.12}$$

Where ϵ_{it} is the error term in the t-th year in the i-th country, σ_i^2 is the i-th country-specific variance, and N is the number of countries. The null hypothesis of the test assumes that the variance of error terms for all countries is constant; the alternative hypothesis states that the variance of at least one country is different. The test compares the estimated variance of the squares of the error terms for each country and calculates a Wald statistic in equation (4.11). Here, $\widehat{\sigma_i^2}$ is the estimated variance of the country-specific error terms, $\widehat{\sigma_i^2}$ is the common variance estimate for all countries, and $\mathrm{Var}\left(\widehat{\sigma_i^2}\right)$ is the variance of the variance estimate. The Wald statistic fits the distribution of χ^2 and the p-value determines whether the null hypothesis in equation (4.12) is rejected or not.

4.4. Concluding Remarks on the Chapter

The data and methodological framework employed in the study is detailed in the section, considering the necessity to lay a robust foundation for analyzing the relationship between political instability and economic growth. The selection of the Political Stability and Absence of Violence/Terrorism indicator from the Worldwide Governance Indicators as

the measure of political instability is expected to ensure a comprehensive and standardized approach. The chapter also lists the importance of various global datasets, including the Political Instability Task Force, World Handbook of Political Indicators, and others, which provide comparative insights into different dimensions of political instability, from low-intensity protests to large-scale wars. The derivation of the Neighboring Political Instability (NPI) index, which weights the influence of neighboring countries based on bilateral trade volumes is expected to contribute to the field, thereby correctly reflecting economic and political ties between countries. This approach attempts to capture regional spillover effects so as to confirm that instability in neighboring countries can significantly impact a host country's economic performance through disrupted trade, increased military expenditure, and human capital flight. The use of real GDP per capita as the dependent variable aligns with established economic growth literature that underscores that income level is superior in assessing the long-term economic relationships, as well as the importance of controlling for critical factors such as human capital, physical capital, trade openness, government expenditure, population growth, and inflation.

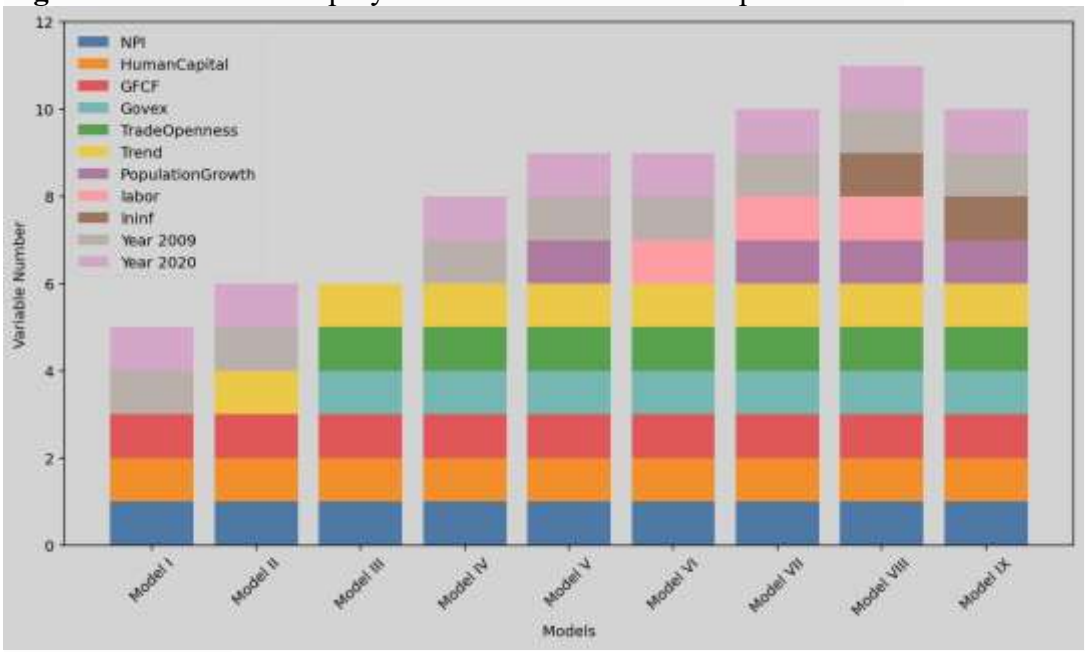
The application of the Two-Stage Least Squares with Fixed Effects model addresses potential endogeneity to provide robust and unbiased estimates of the impact of political instability on economic growth. The inclusion of control variables and time trends enhances the model's explanatory power by accounting for country-specific heterogeneity and global economic shocks. Diagnostic tests address the suitability of the chosen instruments, country heterogeneity, autocorrelation, homoskedasticity, and the absence of significant multicollinearity. The chapter attempts to establish a solid analytical framework for examining how both domestic and regional political instability influence economic growth by integrating comprehensive datasets, a regional weighting approach, and econometric methods.

CHAPTER FIVE

RESULTS AND DISCUSSION

This section presents the results of the analysis based on the two-stage least squares (2SLS) fixed effect (FE) method used to test the main hypotheses of the study. The 2SLS-FE method was chosen to address the endogenous variable problem and to estimate causal relationships more reliably. As discussed in the previous sections, the choice of the method is based on potential endogeneity issues in the data structure and the validity of the instruments. In this section, firstly, the estimation results of the 2SLS-FE model are reported in detail, and then the findings of the tests for the validity of the instruments and the robustness of the model are discussed. Finally, the results will be interpreted in terms of their economic and statistical significance, and their relevance to the hypotheses of the study will be evaluated.

Figure 5.1. Variables Employed under Different Model Specifications



Source: Own work

Figure 5.1 presents nine different model specifications conducted in the main and robust analyses to assess the sensitivity of the results under different control variable combinations. Our variable of interest, neighboring political instability, appears in every single model specification. Human capital and physical capital are considered as basic proximate causes in the related literature, thereby necessitating their presence in diverse specifications together with neighboring political instability. Other control variables and trend are selected for diverse model specifications with varied combinations. Since the reasons of the selection of the variables are explained in detail in previous chapter (pp. 127-138), model variations will not be detailed further to avoid repetition.

5.1. Main Results

Table 5.1 shows the nine models examining the impact of political instability on economic growth using fixed effects and two-stage least squares (2SLS) are estimated with a panel data set covering 159[11] countries. The political instability index of neighboring countries is modeled by correcting its endogeneity with its lagged value, and normal standard errors are used. The models provide a robustness check by gradually adding and subtracting control variables and assessing consistency with theoretical expectations in the economic growth literature. The correlation matrix shows a negative relationship between the neighboring political instability and economic growth (r = -0.53), which supports the hypothesis that neighboring political instability negatively affects growth.

[11] The number changes with respect to model variations between 155 and 172 countries.

Table 5.1. Main Estimation Results

Explanatory Variables	I	II	III	IV	V	VI	VII	VIII	IX
NPI	-0.033 (0.011) ***	-0.072 (0.010) ***	-0.089 (0.011) ***	-0.089 (0.011) ***	-0.089 (0.011) ***	-0.093 (0.011) ***	-0.092 (0.011) ***	-0.087 (0.011) ***	-0.084 (0.011)***
HumanCapital	0.129 (0.002) ***	0.052 (0.003) ***	0.047 (0.003) ***	0.047 (0.003) ***	0.047 (0.003) ***	0.048 (0.003) ***	0.048 (0.003) ***	0.048 (0.003) ***	0.046 (0.003)***
GFCF	0.004 (0.001) ***	0.005 (0.000) ***	0.005 (0.000) ***	0.005 (0.000) ***	0.005 (0.000) ***	0.005 (0.001) ***	0.005 (0.001) ***	0.005 (0.001) ***	0.005 (0.001)***
Govex	-	-	-0.008 (0.001) ***	-0.008 (0.001) ***	-0.007 (0.001) ***	-0.008 (0.001) ***	-0.007 (0.001) ***	-0.007 (0.001) ***	-0.008 (0.001)***
TradeOpenness	-	-	0.0004 (0.0001)***	0.0003 (0.0002)**	0.0003 (0.0002)*	0.0003 (0.0002)**	0.0003 (0.0002)*	0.0003 (0.0002)**	0.0004 (0.0002)**
Trend	-	0.017 (0.001) ***	0.017 (0.001) ***	0.017 (0.001) ***	0.017 (0.001) ***	0.017 (0.001) ***	0.017 (0.001) ***	0.017 (0.001) ***	0.017 (0.001)***
Population Growth	-	-	-	-	0.014 (0.003) ***	-	0.014 (0.003) ***	0.015 (0.003) ***	0.014 (0.003)***
labor	-	-	-	-	-	0.000 (0.001)	0.000 (0.001)	-0.000 (0.001)	-
lninf	-	-	-	-	-	-	-	-0.009 (0.003) ***	-0.009 (0.003)***
Year 2009	-0.016 (0.015)	0.005 (0.014)	-	0.012 (0.013)	0.010 (0.013)	0.012 (0.013)	0.010 (0.013)	0.007 (0.013)	0.007 (0.013)
Year 2020	0.029 (0.015) *	-0.060 (0.014) ***	-	-0.043 (0.014) ***	-0.042 (0.014) ***	-0.044 (0.014) ***	-0.043 (0.014) ***	-0.045 (0.014) ***	-0.044 (0.014)***
Constant	6.751 (0.031) ***	7.488 (0.036) ***	7.722 (0.038) ***	7.728 (0.038) ***	7.704 (0.039) ***	7.700 (0.081) ***	7.673 (0.081) ***	7.707 (0.082) ***	7.720 (0.040)***
Observations	4499	4499	4095	4095	4095	4029	4029	3999	4065
R^2 (Within)	0.4265	0.5408	0.5606	0.5618	0.5649	0.5599	0.5631	0.5625	0.5644
R^2 (Between)	0.6087	0.5877	0.5501	0.5473	0.5474	0.5515	0.5514	0.6867	0.6803
F-test (p-value)	496.58 (0.000)	618.63 (0.000)	603.03 (0.000)	604.38 (0.000)	577.55 (0.000)	604.31 (0.000)	574.88 (0.000)	549.08 (0.000)	553.58 (0.000)
Wald Chi² (p-value)	8.69e+06 (0.000)	1.08e+07 (0.000)	1.19e+07 (0.000)	1.19e+07 (0.000)	1.20e+07 (0.000)	1.16e+07 (0.000)	1.17e+07 (0.000)	1.16e+07 (0.000)	1.19e+07 (0.000)

Source: Own calculations

Note: Coefficients are reported. Values in parentheses are t-statistics (derived from z-statistics). *** p<0.01, ** p<0.05, * p<0.1. All models are estimated with the fixed-effects 2SLS-FE method.

The political instability index has a negative and statistically significant coefficient in all models at 0.01 significance level, ranging from -0.033 in Model I to -0.093 in Model VI. This indicates that political instability reduces economic growth, which is consistent with the findings in the literature. The absolute value of the coefficient of NPI increases as control variables are added, suggesting that additional variables more clearly reveal the impact of political instability. Human capital has a positive and significant coefficient in all models, showing the highest effect in Model I as 0.129 coefficient, while its effect decreases with additional control variables in Model IX as 0.046. This result suggests checking the possibility of human capital having a positive role in economic growth and is in line with Benhabib and Spiegel (1994), Lucas (1988), and (Gyimah-Brempong & De Camacho, 1998). Investment variables, which is gross fixed capital formation to GDP ratio (GFCF), have a consistent positive effect in all models, indicating that physical capital is critical for growth.

Government expenditure (Govex) has a negative and significant coefficient from Model III onwards, suggesting that excessive public expenditure may limit growth. Trade openness has a positive but weak effect from Model III to Model IX, suggesting that trade openness supports growth, but its effect is limited. Population growth is positive and significant in Model V and later models, implying that demographic dynamics may contribute to growth in some countries. Inflation is negative and significant in Models VIII and IX, confirming the negative impact of high inflation on growth. Labor has a statistically insignificant coefficient in Models VI, VII, and VIII, suggesting that labor does not play a determinant role in the model and could potentially be dropped. However, it is consistent with the empirical studies revealing that utilizing population growth in economic growth analyses gives results quite similar to those of labor (Benhabib & Spiegel, 1992, p. 147). Therefore, the results imply the possibility of interchangeable usage of population growth and labor force participation. However, both of the factors are employed under different model specifications so as to capture possible different impacts.

Time dummies are expected to capture economic shocks in 2009 and 2020. The 2020 dummy is negative and significant in most models, ranging from -0.060 to -0.042 percentage change, with a rejection probability lower than 0.01, suggesting that the

coronavirus pandemic severely affected economic growth. The 2009 dummy is generally not significant, which may imply that the impact of the global financial crisis is less pronounced in the dataset. The trend variable is positive and significant in all models, varying around 0.017, indicating a structural increase in GDP per capita over time. The inclusion of trends in the model is crucial to capture the systematic effect of time on variables. Many economic and social variables change in a particular direction over time. If the natural time effect through the trend is not included in the model, the effects of other independent variables in the model may be misestimated, leading to misleading analysis results. However, the trend in time series data often causes stationarity problems. If the mean and variance of a series change over time, it is considered non-stationary. Since the error term must be stationary for econometric models to work properly, including the trend effect of the series in the model also plays a critical role in ensuring the stationarity of the error and thus increasing the reliability of standard statistical results (Wooldridge, 2020, pp. 354–357).

On the other hand, including the trend in the model helps to separate the impact of policy changes or exogenous shocks from the natural flow of time. Here, the effect of exogenous shocks is controlled with 2009 and 2020 dummy variables to eliminate time effects through trends and variables. If this distinction is not made, changes due to the natural time trend may be misinterpreted as policy effects. Finally, the constant term is high and significant in all models, with values between 6.751 and 7.728, reflecting initial differences across countries.

Wooldridge (2020) states that in the two-stage least squares (2SLS) method, the R-squared statistic can be calculated, but it does not have a direct meaning in assessing the fit of the model as in the OLS method. Since the sum of squares of the residuals may exceed the total sum of squares in this method, the R-squared may take a negative value. This shows that 2SLS is not suitable for measuring the explanatory power of variance as in OLS. Wooldridge emphasizes that the main purpose of 2SLS is to consistently estimate the causal effect of the independent variable on the dependent variable. Therefore, a high R-square value does not guarantee the success of the model, as OLS can always produce a higher R-squared, but this can be misleading as it does not solve the endogeneity problem. According to Wooldridge, while reporting R-squared is harmless, the strength

of the instrumental variables and the consistency of the estimates are much more critical in assessing the quality of the model. Even though the R-squared values lose their importance in 2SLS estimators due to the estimated values of the expalanatory variable enter into the second stage of the equations, the values will be interpreted in comparison between model specifications to assess the variability between the models. Model performance is evaluated separately within and between R-squared values. Within R-square measures the explanatory power of the fixed effects model for country-specific variation and rises from 0.4265 in Model I to 0.5644 in Model IX with additional control variables. This increase suggests that additional variables such as government expenditure, trade openness, population growth, and inflation better explain variations in economic growth over time. However, within R-squared values remain moderate, implying that the model captures only a fraction of country-specific dynamics and potentially performs better with additional variables or dynamic effects. Between R-squared reflects the power to explain cross-country variation and ranges from 0.6087 in Model I to 0.6867 in Model VIII, but declines slightly to 0.6803 in Model IX. This may be interpreted as such that the model partially explains differences in economic growth across countries, but that additional control variables have a limited effect in increasing this variation. Comparing the R-squared values of this study with the former studies from literature review implies that the R-squared values obtained in this study indicate a satisfactory level of explanatory power for the model. The models of Barro (1996, p. 80) that regress per capita GDP growth with independent variables including democracy have R-squared values varying between 0.42 and 0.60, the models of Ades and Chua (1997, p. 287) that investigate the regional political instability on economic growth have R-squared values of 0.48 and 0.52, and the models of Feng (1997, p. 407) that examine the impact of democracy and political instability on economic growth have R-squared values varying between 0.4 and 0.47. Overall, the within and between R-squared values suggest that the model's capacity to explain both within-time and cross-country variation is adequate, but that more complex dynamics could be taken into account.

The F-test and Wald Chi-square statistics test the overall significance of the models. The F-test rejects the null hypothesis that the joint effect of the explanatory variables is zero in all models, with values increasing from 496.58 in Model I to 618.63 in Model II and 553.58 in Model IX. This indicates that the additional control variables increase the

explanatory power of the model, and the variables make a significant contribution to explaining economic growth. The Wald Chi-squared test assesses the overall significance of the 2SLS-FE estimates and takes very high values in all models with a zero-rejection probability. These high values confirm that both the model's explanatory variables and the instrumental variable approach perform strongly in explaining variations in economic growth.

5.2. Assessment of the Endogeneity Possibility

The neighboring political instability index (NPI) negatively and significantly affects economic growth in all models, suggesting that political instability reduces growth. However, the endogeneity of the NPI may render OLS-FE estimates inconsistent, which could be due to reverse causality where economic growth affects political instability, or due to omitted variable bias. The negative relationship between neighboring political instability and lnrgdp in the correlation matrix, as being -0.53, supports the complexity of this relationship and the potential endogeneity issue. Although 2SLS corrects for the endogeneity of NPI with the instrument, the necessity of this instrumental approach should be empirically verified. The Durbin-Wu-Hausman test with the inclusion of the residuals from the regression of the instability of neighboring countries index, which is intended to explain, confirms the endogeneity of the NPI, justifying the appropriateness of 2SLS and strengthening the causal interpretations of the model.

Table 5.2. Durbin-Wu Hausman Test Results

Variables	I	II	III	IV	V	VI	VII	VIII	IX
NPI	-0.033 (0.011) ***	-0.072 (0.010) ***	-0.090 (0.011) ***	-0.089 (0.011) ***	-0.090 (0.011) ***	-0.093 (0.011) ***	-0.093 (0.011) ***	-0.087 (0.011) ***	-0.084 (0.011) ***
Resid_NPI	-0.001 (0.020)	0.027 (0.018)	0.049 (0.019) **	0.048 (0.019) **	0.048 (0.018) **	0.053 (0.019) ***	0.053 (0.019) ***	0.049 (0.019) **	0.045 (0.019) **
HumanCapital	0.129 (0.002) ***	0.052 (0.003) ***	0.047 (0.003) ***	0.047 (0.003) ***	0.047 (0.003) ***	0.048 (0.003) ***	0.048 (0.003) ***	0.048 (0.003) ***	0.046 (0.003) ***
GFCF	0.004 (0.001) ***	0.005 (0.000) ***	0.005 (0.000) ***	0.005 (0.000) ***	0.005 (0.000) ***	0.005 (0.001) ***	0.005 (0.001) ***	0.005 (0.001) ***	0.005 (0.001) ***
Govex	-	-	-0.008 (0.001) ***	-0.008 (0.001) ***	-0.007 (0.001) ***	-0.008 (0.001) ***	-0.007 (0.001) ***	-0.007 (0.001) ***	-0.008 (0.001) ***
TradeOpenness	-	-	0.0004 (0.0001)***	0.0003 (0.0002)**	0.0003 (0.0002)*	0.0003 (0.0002)**	0.0003 (0.0002)*	0.0003 (0.0002)**	0.0004 (0.0002)**
Trend	-	0.017 (0.001) ***	0.017 (0.001) ***	0.017 (0.001) ***	0.017 (0.001) ***	0.017 (0.001) ***	0.017 (0.001) ***	0.017 (0.001) ***	0.017 (0.001) ***
Population Growth	-	-	-	-	0.014 (0.003) ***	-	0.014 (0.003) ***	0.015 (0.003) ***	0.014 (0.003) ***
Labor	-	-	-	-	-	0.000 (0.001)	0.000 (0.001)	-0.000 (0.001)	-
Lninf	-	-	-	-	-	-	-	-0.009 (0.003) ***	-0.009 (0.003) ***
Year 2009	-0.016 (0.015)	0.005 (0.014)	-	0.012 (0.013)	0.010 (0.013)	0.012 (0.013)	0.010 (0.013)	0.007 (0.013)	0.007 (0.013)
Year 2020	0.029 (0.015) *	-0.060 (0.014) ***	-	-0.043 (0.014) ***	-0.042 (0.014) ***	-0.044 (0.014) ***	-0.043 (0.014) ***	-0.045 (0.014) ***	-0.044 (0.014) ***
Constant	6.751 (0.031) ***	-26.356 (1.008) ***	-25.891 (0.968) ***	-26.581 (0.990) ***	-27.016 (0.990) ***	-26.193 (1.009) ***	-26.562 (1.007) ***	-26.309 (1.017) ***	-26.787 (0.999) ***
Observations	4499	4499	4095	4095	4095	4029	4029	3999	4065
R^2 (Within)	0.4265	0.5412	0.5618	0.5629	0.5661	0.5612	0.5644	0.5637	0.5654
R^2 (Between)	0.6088	0.5872	0.5466	0.5440	0.5437	0.5480	0.5476	0.6845	0.6777
F-test (p-value)	535.53 (0.000)	727.94 (0.000)	718.41 (0.000)	561.16 (0.000)	511.38 (0.000)	493.34 (0.000)	454.18 (0.000)	412.15 (0.000)	460.34 (0.000)

Source: Own calculations

Note: Coefficients are reported. Values in parentheses are t-statistics (derived from z-statistics). *** p<0.01, ** p<0.05, * p<0.1. All models are estimated with the fixed-effects 2SLS-FE method.

The Durbin-Wu-Hausman test is applied for nine models to assess the endogeneity of the political instability index NPI and to validate the necessity of the 2SLS-FE approach. The test tests the null hypothesis that the NPI is exogenous against the alternative hypothesis that it is endogenous. The results in Table 5.2 show that the coefficients of residuals of NPI are not statistically significant in Model I and Model II with a higher probability than 0.05, implying that there is no strong evidence that NPI is endogenous in these models and that the OLS-FE approach may be sufficient. However, the coefficients of residuals of NPI from Model III to Model IX are statistically significant, varying from 0.045 to 0.053 with a lower probability than 0.05, confirming that the NPI is endogenous and a 2SLS-FE approach is necessary. In particular, the highest significance of the coefficient of residuals of NPI is observed in Model VI and Model VII, which may indicate that the endogeneity problem becomes more pronounced with the addition of control variables, population growth, or labor.

Taken together with the model results, the test results shown in Table 5.2 reveal that the negative and significant effect of NPI on economic growth is affected by endogeneity. The negative relationship between NPI and lnrgdp in the correlation matrix supports that political instability reduces growth, suggesting that this relationship may be affected by endogeneity sources such as reverse causality or omitted variable bias. The significance of the residuals of NPI from Model III to Model IX suggests that the additional control variables of government expenditure, trade openness, population growth, and inflation reveal the endogenous nature of NPI more clearly. This confirms that the 2SLS-FE approach is essential to consistently estimate the causal effect of NPI, especially in more comprehensive model specifications. The weak evidence of endogeneity in Model I and Model II suggests that with fewer control variables, the endogenous effect of NPI could be masked, but the explanatory power of these models represented within R-squared with the values of 0.4265 and 0.5412 is lower. Overall, the test results suggest that the use of 2SLS-FE from Model III to Model IX is appropriate and strengthens causal interpretations of the negative impact of political instability on economic growth.

5.3. Weak Instruments

The weak instrument test is applied to assess the strength of the instrument used for the neighboring political instability index. The test checks whether the instrument has a

strong enough relationship with the NPI, thus ensuring the consistency and reliability of the 2SLS-FE estimates. Weak instruments can lead to bias in estimates and spurious results in standard errors, so the F-statistic in the first-stage regression should be sufficiently high according to Staiger and Stock threshold. This test is a critical step to support the appropriateness of the 2SLS approach in models where the Durbin-Wu-Hausman test confirms the endogeneity of the NPI.

Table 5.3. 2SLS-FE First Stage F-Statistics

	I	II	III	IV	V	VI	VII	VIII	IX
First Stage F-Statistics	F(1, 4387) = 9440.70 ***	F(1, 4386) = 9291.22***	F(1, 3978) = 7711.38***	F(1, 3976) = 7734.11***	F(1, 3975) = 7731.34***	F(1, 3912) = 7474.87***	F(1, 3911) = 7475.11***	F(1, 3882) = 7331.05***	F(1, 3946) = 7614.86***

Source: Own calculations
Notes: F-statistic values are reported. *** p<0.01, ** p<0.05, * p<0.1.

The weak instrument test assessed the impact of the instrument on the neighboring political instability index (NPI) in the first stage regression for each of the nine models and F-statistics were calculated. The results show that F-statistics are quite high in all models, ranging from 9440.70 in Model I to 7331.05 in Model VIII, which are well above the threshold of Staiger and Stock. Further, according to Stock-Yogo thresholds, an F-statistic above 13.91 for a single endogenous variable and three instruments is usually sufficient to rule out the weak instrument problem, and also for a single endogenous and 9 instruments an F-statistic above 20.53 is enough to reject the existence of weak instruments (Stock & Yogo, 2002, p. 39). The F-statistics in all models are between 7331.05 and 9440.70, confirming that the lagged value of neighboring political instability is an extremely strong instrument for NPI and is not affected by the weak instrument problem.

The F-statistics exceed Stock-Yogo thresholds in all models, indicating that the instrumental variable approach of the 2SLS-FE model is appropriate and reliably estimates the effects of NPI on economic growth. This finding, coupled with the evidence of endogeneity from the Durbin-Wu-Hausman test from Model III to Model IX, confirms that the 2SLS-FE approach is both necessary and valid. Although the weak evidence of endogeneity in Model I and Model II suggests that OLS-FE may be preferable in these

models, the high F-statistics suggest that the lagged value of neighboring political instability is a powerful instrument in all cases.

5.4. The Choice of Random or Fixed Effects Estimation

The Hausman test compared the coefficients of the fixed effects (FE) and random effects (RE) models for each of the nine models, and Chi-square statistics were calculated. The results show that Chi-square statistics are statistically significant in all models at the 0.01 significance level, with values ranging from 145.51 in Model I to 408.14 in Model VIII. These high Chi-square values confirm that the null hypothesis is rejected and the explanatory variables of neighboring political instability, human capital, physical capital, government expenditure, trade openness, population growth, inflation, and labor are correlated with country-specific effects. Therefore, for all model variations, the fixed effects model should be preferred to the random effects model because the FE model provides more consistent estimates by controlling for country-specific fixed effects.

Table 5.4. Hausman's Specification Test Results

	I	II	III	IV	V	VI	VII	VIII	IX
Chi-Square Test Statistics	Chi(5) = 145.51 ***	Chi(6) = 251.41 ***	Chi(6) = 248.45 ***	Chi(8) = 248.03 ***	Chi(9) = 276.58 ***	Chi(9) = 238.09 ***	Chi(10) = 275.22 ***	Chi(11) = 408.14 ***	Chi(10) = 399.61 ***

Source: Own calculations
Notes: Chi-square statistic values are reported. *** p<0.01, ** p<0.05, * p<0.1.

The Hausman test's support for the FE model reinforces the appropriateness of these methodological choices, as the correlation of NPI and other variables with country-specific factors such as institutional structures or economic conditions suggests that the RE model may produce biased estimates. On the other hand, the fact that the test favors the FE model in all models confirms that country-specific heterogeneities play an important role in economic growth dynamics and that these effects should be controlled for. The highest Chi-square statistics in Model VIII and Model IX may imply that country-specific effects become more pronounced when more control variables are added.

5.5. Autocorrelation Results

The Wooldridge test is applied to detect the presence of first-order autocorrelation (AR(1)) in the error terms in the panel data model. Autocorrelation can lead to biased estimation of standard errors when the error terms are time-dependent, which makes the statistical inferences of the model misleading. In this model, given that the relationship between the neighboring political instability index and economic growth may have persistent effects over time despite the inclusion of trend and time dummies, the presence of autocorrelation may call into question the reliability of normal standard errors and the accuracy of 2SLS-FE estimates. Testing is a critical step to verify the assumptions of the model and to assess the need for robust standard errors or dynamic panel methods.

Table 5.5. Wooldridge Test Results

	I	II	III	IV	V	VI	VII	VIII	IX
F-Statistics	F(1, 170) = 78.980 ***	F(1, 170) = 69.399 ***	F(1, 163) = 77.232 ***	F(1, 163) = 72.455 ***	F(1, 163) = 72.555 ***	F(1, 160) = 68.521 ***	F(1, 160) = 68.647 ***	F(1, 158) = 69.415 ***	F(1, 161) = 73.346 ***

Source: Own calculations
Notes: F-statistic values are reported. *** p<0.01, ** p<0.05, * p<0.1.

The Wooldridge test assessed the presence of first-order autocorrelation in the error terms for each of the nine models, and F-statistics were calculated. The results show that the F-statistics are statistically significant in all models, with values ranging from 78.980 in Model I to 68.647 in Model VII. These high F-statistics confirm that the null hypothesis of no autocorrelation is rejected and that first-order autocorrelation is present in the error terms. The presence of autocorrelation implies that normal standard errors may be biased and affect the reliability of statistical tests of the model.

The F-statistics are highest in Model I and lowest in Model VII, suggesting that the degree of autocorrelation varies slightly depending on the control variables, but is strongly present in all models. This finding implies that the explanatory power of the model may be affected by the accuracy of standard errors due to autocorrelation. The presence of autocorrelation may require the use of clustered or robust standard errors instead of normal standard errors or further robustness tests. These results suggest that while the

2SLS-FE model retains its methodological robustness, the error term assumptions are violated and additional corrections are needed.

5.6. Modified Wald Test Results

The Modified Wald test is applied to assess whether the error terms in the panel data model are homoskedastic, i.e., whether they have a constant variance. Heteroskedasticity can lead to biased estimation of standard errors if the variance of the error terms varies by country or time, making the statistical inferences of the model misleading. Given that the relationship between the neighboring political instability index and economic growth in this model may be affected by country-specific heterogeneities like economic structure or institutional differences, the presence of heteroskedasticity calls into question the reliability of normal standard errors and may affect the accuracy of 2SLS-FE estimates. Testing is a critical step to verify the assumptions of the model and assess the need for robust or clustered standard errors.

Table 5.6. Modified-Wald test for homoskedasticity

	I	II	III	IV	V	VI	VII	VIII	IX
Chi-Square Test Statistics	chi2 (172) = 105173 .48***	chi2 (172) = 205097 .43***	chi2 (165) = 140175 .97***	chi2 (165) = 184661 .69***	chi2 (165) = 172182 .67***	chi2 (162) = 170192 .78***	chi2 (162) = 163886 .51***	chi2 (159) = 148753 .41***	chi2 (162) = 155772 .60***

Source: Own calculations
Notes: Chi-square statistic values are reported. *** p<0.01, ** p<0.05, * p<0.1.

The Modified Wald test assessed whether the error terms were homoskedastic for each of the nine models, and Chi-square statistics were calculated. The results show that the chi-square statistics are statistically significant in all models at the 0.01 significance level, with values ranging from 105173.48 in Model I to 205097.43 in Model II. These high chi-square values confirm the rejection of the null hypothesis that assumes homoskedasticity and the presence of heteroskedasticity in the error terms. The presence of heteroskedasticity suggests that normal standard errors may be biased and affect the reliability of statistical tests of the model. This finding, coupled with the fact that the Wooldridge test detects first-order autocorrelation in all models, suggests that normal standard errors can be seriously misleading in the 2SLS-FE model.

In particular, the high chi-square values in Model VIII and Model IX may indicate that heteroskedasticity becomes more pronounced when additional variables are added. These results suggest that while the 2SLS-FE model retains its methodological soundness, the error term assumptions are violated and additional corrections are needed. The test contributes to the economic growth literature and highlights the importance of robust approaches in modeling the country-specific heterogeneous effects of political instability.

5.7. Main Results with Robust Standard Errors

Clustered standard errors are provided, thereby taking into account that error terms may be correlated across countries, and their variances may vary across countries, leading to heteroskedasticity. The Wooldridge test that is conducted on the model variations detected first-order autocorrelation in the error terms, and the Modified Wald test detected heteroskedasticity. These violations can lead to biased normal standard errors and misleading significance tests of the coefficients. Clustered standard errors provide more reliable standard error estimates by correcting for country-specific correlations of error terms and heteroskedasticity, hence making the statistical inferences of the model more robust. This approach is especially critical in panel data analyses where the impact of variables such as political instability (NPI) on economic growth is affected by country-specific heterogeneities because in such data, the error terms are often not independent and homoscedastic (Cameron & Miller, 2015, pp. 2, 14).

Table 5.7. Main Results with Clustered-Robust Standard Errors

Explanatory Variables	I	II	III	IV	V	VI	VII	VIII	IX
NPI	-0.033 (0.032)	-0.072 (0.030) **	-0.089 (0.034) ***	-0.089 (0.034) ***	-0.089 (0.034) ***	-0.093 (0.034) ***	-0.092 (0.034) ***	-0.087 (0.035) **	-0.084 (0.034) **
HumanCapital	0.129 (0.011) ***	0.052 (0.013) ***	0.047 (0.012) ***	0.047 (0.012) ***	0.047 (0.012) ***	0.048 (0.013) ***	0.048 (0.013) ***	0.048 (0.014) ***	0.046 (0.013) ***
GFCF	0.004 (0.002) **	0.005 (0.002) ***	0.005 (0.002) ***	0.005 (0.002) ***	0.005 (0.002) ***	0.005 (0.002) ***	0.005 (0.002) ***	0.005 (0.002) ***	0.005 (0.002) ***
Govex	-	-	-0.008 (0.003) ***	-0.008 (0.003) ***	-0.007 (0.003) ***	-0.008 (0.003) ***	-0.007 (0.003) ***	-0.007 (0.003) ***	-0.008 (0.003) ***

TradeOpenness	-	-	0.0004 (0.0005)	0.0003 (0.0005)	0.0003 (0.0005)	0.0003 (0.0005)	0.0003 (0.0005)	0.0003 (0.0005)	0.0004 (0.0005)
Trend	-	0.017 (0.002) ***	0.017 (0.002) ***	0.017 (0.002) ***	0.017 (0.002) ***	0.017 (0.002) ***	0.017 (0.002) ***	0.017 (0.002) ***	0.017 (0.002) ***
Population Growth	-	-	-	-	0.014 (0.006) **	-	0.014 (0.006) **	0.015 (0.006) **	0.014 (0.006) **
Labor	-	-	-	-	-	0.000 (0.005)	0.000 (0.005)	-0.000 (0.005)	-
Lninf	-	-	-	-	-	-	-	-0.009 (0.005) *	-0.009 (0.005) *
Year 2009	-0.016 (0.009) *	0.005 (0.008)	-	0.012 (0.009)	0.010 (0.009)	0.012 (0.009)	0.010 (0.009)	0.007 (0.009)	0.007 (0.009)
Year 2020	0.029 (0.012) **	-0.060 (0.007) ***	-	-0.043 (0.009) ***	-0.042 (0.009) ***	-0.044 (0.012) ***	-0.043 (0.012) ***	-0.045 (0.012) ***	-0.044 (0.009) ***
Constant	6.751 (0.133) ***	7.488 (0.152) ***	7.722 (0.161) ***	7.728 (0.162) ***	7.704 (0.160) ***	7.700 (0.423) ***	7.673 (0.420) ***	7.707 (0.420) ***	7.720 (0.161) ***
Observations	4499	4499	4095	4095	4095	4029	4029	3999	4065
R^2 (Within)	0.4265	0.5408	0.5606	0.5618	0.5649	0.5599	0.5631	0.5625	0.5644
R^2 (Between)	0.6087	0.5877	0.5501	0.5473	0.5474	0.5515	0.5514	0.6867	0.6803
Wald Chi^2 (p-value)	39578.24 (0.000)	49103.35 (0.000)	45863.51 (0.000)	85698.25 (0.000)	84819.70 (0.000)	82094.04 (0.000)	81680.39 (0.000)	88965.26 (0.000)	92698.87 (0.000)

Source: Own calculations

Note: Coefficients are reported. Values in parentheses are t-statistics (derived from z-statistics). *** p<0.01, ** p<0.05, * p<0.1. All models are estimated with the fixed-effects 2SLS-FE method with robust standard errors.

Analyzing with clustered standard errors strengthens the causal interpretations of the model and reduces the risk of false significance. For example, while the negative effect of NPI on economic growth appears significant with normal standard errors, autocorrelation and heteroskedasticity suggest that this significance may be overstated.

Clustered standard errors correct for these problems, revealing the true statistical power of NPI's impact and providing a more reliable basis for policy recommendations. Moreover, this method does not change the explanatory power of the model but affects the size of the standard errors and, hence, the p-values, leading to more conservative estimates.

The re-estimated 2SLS-FE model with clustered standard errors assessed the impact of the political instability index on economic growth in nine models. The coefficients of the NPI remained negative in all models, but the significance levels varied due to clustered standard errors. In normal standard error results, the coefficients of NPI ranged from -0.033 to -0.093 and were statistically significant in all models, while standard errors were significantly increased with clustered standard errors, thereby confirming that autocorrelation and heteroskedasticity underestimate normal standard errors. Overall, the effect of NPI turned out to be insignificant in Model I but remained significant from Model II to Model IX. This suggests that while supporting the deduction that NPI reduces economic growth, clustered standard errors offer more precautionary estimates, and Model I with fewer control variables fails to capture the impact of NPI anymore with the robust standard errors.

The coefficients of the other explanatory variables are broadly consistent with normal standard error results, but their significance levels were partially altered by clustered standard errors. Human capital remained positive and significant in all models, but standard errors increased from the range of 0.002-0.003 to 0.011-0.014. Capital formation is also consistently positive and significant, but the significance level decreased in the model variations. Government expenditure is negative and significant, while trade openness is insignificant in all models, suggesting that the weak significance in the normal standard error results is biased. Population growth is positive and significant, inflation is negative and weakly significant in Models VIII-IX at the 0.1 significance level, while labor is insignificant, consistent with normal standard error results. Year dummies, especially pandemic year, show strong negative effects, similar to the normal standard error results.

Within R-squared values are almost identical to the normal standard error results, such that they vary from 0.4265 to 0.5649 in normal standard error models, while the range

becomes 0.4265-0.5661 in robust models, indicating that clustered standard errors do not change the explanatory power of the model for variation over time. Within R-squared value starts low in restricted models at 0.4265 and increases in Model V and Model IX, confirming that the additional control variables, especially government expenditure, trade openness, population growth, and inflation better explain variations in growth over time. Between R-squared values are similarly consistent, but remain relatively low from Model III to Model VII, indicating that the model is limited in explaining cross-country growth differences. The substantial increase in between R-squared in Models VIII and IX reflects the contribution of inflation and population growth in explaining cross-country variation.

The Wald Chi-squared statistics with clustered standard errors, in comparison to the F-test and Wald Chi-squared with normal results, suggest that the explanatory power of the model is preserved, yet the magnitude of the test statistics lowers with stricter standard errors. Compared to normal standard errors, clustered standard errors caused the neighboring political instability to lose significance in Model I, but significance was maintained from Model II to Model IX, confirming that the finding that neighboring political instability reduces the economic growth of the host country is robust. This suggests that the effects of autocorrelation and heteroskedasticity are corrected by clustered standard errors, making the causal interpretations of the model more reliable.

5.8. Comparing the Effect of Neighboring Political Instability Across Country Attributes

The impact of political instability in neighboring countries on economic growth differs depending on the structural and path-dependent characteristics of the countries. It has been widely argued in the literature that the economic consequences of political instability are affected by country characteristics. In particular, factors such as ethnic structure, regime type, income level, and geographic region shape the spillover mechanisms and economic impacts of instability. For example, in ethnically heterogeneous countries or authoritarian regimes with weak institutional structures, neighborhood instability has been observed to further undermine economic growth (Ades & Chua, 1997). Similarly, low-income countries may be more vulnerable to such external shocks due to their limited economic resilience. In addition, the interaction between a country's own political

instability and the instability of neighboring countries can complicate the aggregate impact on economic growth. In this context, the analysis is targeted to compare the impact of neighboring countries' political instability on economic growth by countries' ethnic structure, regime type, income level, and geographic region. It will also try to measure the comparative importance of the country's own instability to this impact. This approach aims to provide a solid basis for understanding the heterogeneous effects of political instability.

5.8.1. Comparing the Impact Across Regime Types

In this stage of the analysis of the impact of neighboring countries' political instability on economic growth, the countries' level of democracy is assessed to see if there is any relationship between regime type and instability level. The level of democracy is measured using the liberal democracy index of the *V-Dem dataset* (2025), which provides a comprehensive measure of individual freedoms, the rule of law, and the strength of democratic institutions. Firstly, the direct impact of democracy on economic growth and its interaction with the NPI is examined by including democracy as an independent variable in the two-stage least squares fixed effects model. This approach aims to test the hypothesis that democracy can potentially mitigate or amplify the economic effects of neighboring country instability.

Table 5.8. Test Results with Democracy and Its Interaction Terms

Explanatory Variables	Exogenous				Endogenous			
	Robust		Normal		Robust		Normal	
	I	II	I	II	I	II	I	II
NPI	-0.087 (0.062)	-0.083 (0.062)	-0.087 (0.017)***	-0.083 (0.017)***	-0.082 (0.062)	-0.082 (0.062)	-0.082 (0.017)***	-0.082 (0.017)***
NPIdem	0.002 (0.118)	-0.011 (0.120)	0.002 (0.035)	-0.011 (0.037)	-0.014 (0.119)	-0.014 (0.119)	-0.014 (0.037)	-0.014 (0.037)
Democracy	-	0.069 (0.111)	-	0.069 (0.040)*	0.083 (0.120)	0.083 (0.120)	0.083 (0.044)*	0.083 (0.044)*
GFCF	0.005 (0.002)**	0.005 (0.002)**	0.005 (0.001)***	0.005 (0.001)***	0.005 (0.002)**	0.005 (0.002)**	0.005 (0.001)***	0.005 (0.001)***
Govex	-0.007 (0.003)***	-0.007 (0.003)***	-0.007 (0.001)***	-0.007 (0.001)***	-0.007 (0.003)***	-0.007 (0.003)***	-0.007 (0.001)***	-0.007 (0.001)***

TradeOpenness	0.0004 (0.0005)	0.0004 (0.0005)	0.0004 (0.0002)**	0.0004 (0.0002)**	0.0004 (0.0005)	0.0004 (0.0005)	0.0004 (0.0002)**	0.0004 (0.0002)**
HumanCapital	0.045 (0.013)***	0.045 (0.013)***	0.045 (0.003)***	0.045 (0.003)***	0.045 (0.013)***	0.045 (0.013)***	0.045 (0.003)***	0.045 (0.003)***
PopulationGrowth	0.013 (0.006)**	0.013 (0.006)**	0.013 (0.003)***	0.013 (0.003)***	0.013 (0.006)**	0.013 (0.006)**	0.013 (0.003)***	0.013 (0.003)***
lninf	-0.011 (0.005)**	-0.011 (0.005)**	-0.011 (0.003)***	-0.011 (0.003)***	-0.011 (0.005)**	-0.011 (0.005)**	-0.011 (0.003)***	-0.011 (0.003)***
trend	0.018 (0.002)***	0.018 (0.002)***	0.018 (0.001)***	0.018 (0.001)***	0.018 (0.002)***	0.018 (0.002)***	0.018 (0.001)***	0.018 (0.001)***
Year 2020	-0.043 (0.009)***	-0.042 (0.009)***	-0.043 (0.014)***	-0.042 (0.014)***	-0.042 (0.009)***	-0.042 (0.009)***	-0.042 (0.014)***	-0.042 (0.014)***
_cons	7.680 (0.162)***	7.653 (0.171)***	7.680 (0.040)***	7.653 (0.043)***	7.647 (0.170)***	7.647 (0.170)***	7.647 (0.043)***	7.647 (0.043)***
Observations	3,944	3,944	3,944	3,944	3,944	3,944	3,944	3,944
R^2 (Within)	0.5828	0.5832	0.5828	0.5832	0.5832	0.5832	0.5832	0.5832
R^2 (Between)	0.6875	0.7091	0.6875	0.7091	0.7124	0.7124	0.7124	0.7124
Wald Chi^2 (p)	78643.5 (0.000)	78488.7 (0.000)	1.17e+07 (0.000)	1.17e+07 (0.000)	78524.4 (0.000)	78524.4 (0.000)	1.17e+07 (0.000)	1.17e+07 (0.000)

Source: Own calculations
Note: Coefficients are reported. Values in parentheses are t-statistics (derived from z-statistics). *** p<0.01, ** p<0.05, * p<0.1. All models are estimated with the fixed-effects 2SLS-FE method with robust and normal standard errors.

The results in Table 5.8 show that the effect of neighboring political instability on economic growth does not interact significantly with the level of democracy. The coefficient on NPI is negative (-0.082 to -0.087) and statistically significant with normal standard errors in all models, but the significance disappears when clustered robust standard errors are utilized in the estimations. This confirms that in the presence of autocorrelation and heteroskedasticity, clustered standard errors provide more conservative estimates and avoid incorrect statistical inferences. The interaction term of democracy and neighboring political instability is statistically insignificant in all models, suggesting that the level of democracy does not modulate the impact of NPI on economic growth. In models where democracy is included as an independent variable, its coefficient is positive, ranging from 0.069 to 0.083, but only weakly significant with normal standard errors and becomes insignificant with clustered standard errors. This result suggests that the direct effect of democracy may be partially absorbed by fixed effects and should be

considered together with the possibility that institutional factors play a limited role in panel data. On the other hand, whether democracy was endogenous or exogenous did not significantly change the results, suggesting that endogeneity concerns are limited for democracy.

The analysis of the impact of political instability of neighboring countries on economic growth through interaction terms with the level of democracy fails to identify a significant moderating effect. Therefore, subgroup analyses are taken into account by classifying the level of democracy into regime-type categories as liberal democracy, electoral democracy, electoral autocracy, and closed autocracy.

V-Dem project classifies regimes into four categories, ranging from democratic to authoritarian. Liberal democracies incorporate features of electoral democracy, such as clean and competitive elections, suffrage for large sections of the society, elected governance officials, and freedoms of expression. They are also characterized by constitutional protection of individual and minority rights, the rule of law, and checks and balances mechanisms. Electoral democracies are regimes with regular and usually free elections, but weaker than liberal democracies in terms of individual rights and the rule of law, where executive power may have limited checks and balances. Electoral autocracies are systems in which elections are held but are severely manipulated, opposition is suppressed, and basic rights are restricted, leading to the executive having dominant control over other institutions. Closed autocracies, on the other hand, are regimes where elections are either not held at all or are purely formal, such that political power is controlled by a single leader, party, or small elite group. This classification provides a multidimensional analysis of regimes using V-Dem's Electoral Democracy Index and its component indices, such as liberal, egalitarian, participatory, and deliberative, and allows for global comparisons (Coppedge et al., 2019). These categories, constructed using V-Dem's liberal democracy index, aim to assess how regime type differentiates the economic effects of the NPI.

Table 5.9. Test Results According to Regime Types

Explanatory Variables	Closed Autocracy		Electoral Autocracy		Electoral Democracy		Liberal Democracy	
	Normal	Robust	Normal	Robust	Normal	Robust	Normal	Robust
NPI	-0.045 (0.030)	-0.045 (0.085)	-0.095 (0.018)***	-0.095 (0.048)*	-0.161 (0.017)***	-0.161 (0.046)***	-0.036 (0.017)**	-0.036 (0.079)
GFCF	0.0055 (0.0012)***	0.0055 (0.0037)	0.0033 (0.0009)***	0.0033 (0.0022)	0.0029 (0.0007)***	0.0029 (0.0019)	0.0078 (0.0012)***	0.0078 (0.0031)**
Govex	-0.0117 (0.0021)***	-0.0117 (0.0066)*	-0.0008 (0.0018)	-0.0008 (0.0045)	-0.0038 (0.0008)***	-0.0038 (0.0013)***	-0.0211 (0.0026)***	-0.0211 (0.0086)**
TradeOpenness	0.0002 (0.0005)	0.0002 (0.0015)	-0.0002 (0.0002)	-0.0002 (0.0005)	0.0006 (0.0002)***	0.0006 (0.0007)	0.0010 (0.0002)***	0.0010 (0.0009)
HumanCapital	0.0409 (0.0086)***	0.0409 (0.0326)	0.0611 (0.0062)***	0.0611 (0.0158)***	0.0565 (0.0049)***	0.0565 (0.0160)***	0.0144 (0.0051)***	0.0144 (0.0154)
PopulationGrowth	0.0115 (0.0050)**	0.0115 (0.0076)	0.0174 (0.0052)***	0.0174 (0.0095)*	0.0229 (0.0086)***	0.0229 (0.0329)	0.0202 (0.0078)***	0.0202 (0.0185)
lninf	-0.0218 (0.0085)***	-0.0218 (0.0147)	-0.0028 (0.0046)	-0.0028 (0.0066)	0.0037 (0.0042)	0.0037 (0.0058)	-0.0060 (0.0034)*	-0.0060 (0.0053)
trend	0.0174 (0.0016)***	0.0174 (0.0069)**	0.0151 (0.0010)***	0.0151 (0.0033)***	0.0235 (0.0008)***	0.0235 (0.0026)***	0.0168 (0.0007)***	0.0168 (0.0027)***
Year 2020	-0.0190 (0.0426)	-0.0190 (0.0270)	-0.0652 (0.0238)***	-0.0652 (0.0145)***	-0.0441 (0.0194)**	-0.0441 (0.0159)***	-0.0332 (0.0175)*	-0.0332 (0.0178)*
_cons	7.309 (0.091)***	7.309 (0.352)***	6.840 (0.062)***	6.840 (0.142)***	7.051 (0.056)***	7.051 (0.198)***	9.840 (0.101)***	9.840 (0.289)***
Observations	905	905	1,054	1,054	947	947	1,044	1,044
R^2 (Within)	0.3974	0.3974	0.6238	0.6238	0.8241	0.8241	0.6715	0.6715
R^2 (Between)	0.3944	0.3944	0.5380	0.5380	0.5230	0.5230	0.0104	0.0104
Wald Chi^2 (p)	1.02e+06 (0.000)	6188.29 (0.000)	3.13e+06 (0.000)	53747.38 (0.000)	5.34e+06 (0.000)	67246.12 (0.000)	1.12e+07 (0.000)	79024.82 (0.000)

Source: Own calculations

Note: Coefficients are reported. Values in parentheses are t-statistics (derived from z-statistics). *** p<0.01, ** p<0.05, * p<0.1. All models are estimated with the fixed-effects 2SLS-FE method with robust and normal standard errors.

Table 5.9 reveals that the impact of NPI on economic growth differs by regime type. In the electoral democracy category, the NPI coefficient is the largest and statistically significant with both normal and robust standard errors, suggesting that countries with an electoral democracy regime type are more vulnerable to neighborhood instability. The NPI effect is smaller but statistically significant in the electoral autocracy category, exemplified by countries like Indonesia, Bangladesh, Hungary, Tunisia, Congo and

Pakistan, while it is generally insignificant in the closed autocracy category, such as Belarus, Gabon, Turkmenistan, Vietnam, and Syria, and in the liberal democracy category, including countries like Australia, Canada, Japan, Chile, and Sweden. This suggests that there is a non-linear relationship between the presence of democratic institutions and economic vulnerability and that electoral democracies may be particularly vulnerable to external shocks. These findings are in line with the arguments of Auvinen (1997, p. 186), who perceives a U-shape relationship between political instability and regime type as such that the mixed regimes are the most vulnerable ones.

The inconclusive results of the analyses in which democracy is included as a level variable are in concordance with the findings of Alesina and Rodrik (1994). Alesina and Rodrik assert that the lack of correlation between regime type and growth stems from two factors: 1) redistributive pressures are not unique to democratic regimes but can be present in authoritarian regimes too, 2) regime objectives can be growth-maximizing in authoritarian regimes, whereas democratic regimes can pursue short-term economic policies. Secondly, Barro's (1996) arguments support the results of the categorical analysis, which he claims the existence of a non-linear relationship between democracy and economic performance such that established regime types can prioritize economic prosperity, whereas enhancing freedom to a certain level in democratic countries may hinder economic growth due to the concerns related to redistribution and a strong welfare state. Tavares and Wacziarg (2001) interpret that the negative impact of democracy on economic growth attained from empirical analyses may be due to the increase in human capital and demand for income equality that emerges with increasing levels of democracy, which suppresses physical capital accumulation. The findings of the non-existence of a relationship between regime type and the impact of political instability on economic growth, such as Aisen and Vega (2013), may be a result of binary analyses, though the possibility of a non-linear relationship necessitates more than two categories.

Among the control variables, human capital and trend show strong positive effects across all categories, while government expenditure is negative and significant in closed autocracy and liberal democracy. The impact of the coronavirus pandemic year is negative and generally significant in all categories due to global economic shocks. Within R-squared values are higher for electoral democracy and liberal democracy, indicating that

the model explains more variance in these groups. These findings highlight the vulnerability of electoral democracies to neighborhood instability while suggesting that liberal democracies may be more resilient. The results imply that the countries where institutional structures are better established, whether autocratic or democratic, are less prone to the political instability of their neighbors.

5.8.2. Comparing The Results According to Ethnic Fragmentation

In this stage of the analysis of the impact of political instability of neighboring countries on economic growth, how ethnic structure differentiates this relationship becomes the question of the study. As discussed before, ethnic diversity plays an important role in infrastructure, human capital, financial structure, and economic resilience to external shocks, which are factors affecting economic performance (Easterly & Levine, 1997, p. 1241). In particular, it has been argued that in countries with high ethnic fractionalization, neighborhood instability may further undermine economic growth, as political tensions and resource competition may increase in these countries. Therefore, countries are divided into high and low-ethnic fragmented categories according to their level of ethnic diversity and run the two-stage least squares fixed effects model for each category.

Countries are classified according to their level of ethnic fractionalization to examine the impact of the political instability of neighboring countries on economic growth in the context of ethnic structure. Ethnic fractionalization data are taken from Drazanova's (2019) Historical Index of Ethnic Fractionalization dataset, which provides an index measuring countries' ethnic diversity from 0 corresponding to complete homogeneity to 1 corresponding to complete heterogeneity and allows for historically consistent measures of ethnic structure. Countries are divided into two categories according to their average ethnic fractionalization value: low ethnic fractionalized and high ethnic fractionalized.

Table 5.10. The Impact of Neighboring Political Instability for Different Ethnic Structures

Variables	Low Ethnic Fragmentation		High Ethnic Fragmentation	
	Robust	Normal	Robust	Normal
NPI	-0.0786 (0.0455)*	-0.0786 (0.0157)***	-0.1194 (0.0455)***	-0.1194 (0.0135)***
GFCF	0.0079 (0.0035)**	0.0079 (0.0009)***	0.0037 (0.0018)**	0.0037 (0.0005)***
Govex	-0.0110 (0.0055)**	-0.0110 (0.0015)***	-0.0056 (0.0026)**	-0.0056 (0.0008)***
TradeOpenness	0.0007 (0.0008)	0.0007 (0.0002)***	0.00003 (0.0006)	0.00003 (0.0002)
HumanCapital	0.0601 (0.0184)***	0.0601 (0.0045)***	0.0331 (0.0143)**	0.0331 (0.0044)***
PopulationGrowth	0.0094 (0.0096)	0.0094 (0.0044)**	0.0136 (0.0071)*	0.0136 (0.0030)***
lninf	-0.0181 (0.0068)***	-0.0181 (0.0036)***	0.0037 (0.0058)	0.0037 (0.0036)
trend	0.0197 (0.0027)***	0.0197 (0.0007)***	0.0149 (0.0023)***	0.0149 (0.0007)***
2020.year	-0.0378 (0.0136)***	-0.0378 (0.0203)*	-0.0413 (0.0128)***	-0.0413 (0.0167)**
Constant	7.7668 (0.3183)***	7.7668 (0.0658)***	7.6075 (0.1474)***	7.6075 (0.0460)***
Observations	2,081	2,081	1,984	1,984
R^2 (Within)	0.6189	0.6189	0.5459	0.5459
R^2 (Between)	0.6874	0.6874	0.5741	0.5741
F istatistiği	-	F(78,1993) = 409.39***	-	F(82,1892) = 786.36***

Source: Own calculations

Note: Coefficients are reported. Values in parentheses are t-statistics (derived from z-statistics). *** p<0.01, ** p<0.05, * p<0.1. All models are estimated with the fixed-effects 2SLS-FE method with robust and normal standard errors.

Table 5.10 presents that the impact of NPI on economic growth differs depending on the level of ethnic fractionalization. In the high ethnic fractionalization category, the negative impact of NPI is larger, while in the low ethnic fractionalization category, it is smaller. These results are consistent with the arguments that ethnically heterogeneous countries are more vulnerable to neighboring instability and that social tensions can exacerbate such external shocks. Among the control variables, human capital has a strong positive effect in both categories, but its effect is larger in the low fractionalization group. Government expenditure is negative and significant in both categories, with a weaker effect in the high fractionalization group. Within R-squared values are higher for low fractionalization, indicating that the model explains more variance in this group. These findings confirm that neighborhood instability is more threatening to economic growth in countries with high ethnic diversity, while suggesting that countries characterized by low ethnic fractionalization may be more resilient. Countries with high ethnic diversity, like Uganda,

Liberia, Kenya, Chad, and Mali, are more vulnerable to threats to economic growth from neighboring country instability, while countries with low ethnic diversity, like Japan, Denmark, Finland, and South Korea, are more resilient to these threats through social cohesion and unity. These results emphasize the need to consider the indirect effects of ethnic diversity on economic growth, especially in the context of regional instability.

On the other hand, countries with high ethnic diversity such as Canada, Spain, and Belgium and low ethnic diversity such as North Korea, Albania, Paraguay, and Cambodia show that the impact of ethnic diversity on economic growth needs to be assessed in combination with other factors such as institutional quality, economic policies, regime type, proximity to developed areas, and historical context. While Canada, Spain, and Belgium, despite their high ethnic diversity, exhibit prosperous economies thanks to strong institutions and effective integration policies, the low ethnic diversity of North Korea, Albania, Paraguay, and Cambodia is unable to support economic growth due to probably diverse reasons like authoritarian rule, historical context, and economic isolation. These exceptions do not break the generalization of the outcomes of the models, but emphasize that the impact of ethnic diversity is conditional on other factors such as weak institutions or intense regional instability.

Focusing on Africa, Easterly and Levine (1997) reveal that ethnic diversity increases political instability, but this relationship is rather complicated, such that high ethnic diversity is strongly associated with extreme conflict situations such as genocide and civil war; for example, in countries where ethnic fragmentation is higher, the likelihood of genocide increases, and the probability of civil war is statistically significant. However, other indicators of political instability are not consistently correlated with ethnic diversity; only constitutional changes are significantly higher in Africa. For them, ethnic diversity indirectly increases political instability through competitive rent-seeking and weak institutional structures, which in turn trigger the adoption of anti-growth policies, which is consistent with the empirical results of the study. Annett (2000), on the other hand, presents the transmission mechanism between ethnic diversity and economic growth in a different way, arguing that high ethnic fragmentation results in higher political instability, which eventually leads governments to spend more at the expense of public savings.

5.8.3. Comparing Domestic Political Instability with Neighboring Political Instability

Domestic and regional political instability may affect economic growth through different mechanisms; for example, domestic instability may affect direct investment and institutional trust, while neighboring instability may have indirect effects through trade, refugee flows, or regional uncertainty. In this context, NPI and PI are tested in the same model and separately to examine the relative impact of each on economic growth and their potential interactions. The two-stage least squares fixed effects model uses lagged values of both NPI and PI as instruments to address the endogeneity possibility of the relationship.

Table 5.11 presents the results of the models, including neighboring political instability alone, domestic political instability alone, and both included. The NPI model shows that neighborhood instability has a negative and statistically significant impact on economic growth, yet the PI model reveals that the country's own political instability has a larger negative impact, suggesting that the destructive effect of domestic instability on economic growth is stronger than neighboring instability. In the model including both variables together, the coefficient of PI is larger than that of NPI and remains significant with robust standard errors. This confirms that the impact of domestic political instability on economic growth dominates over neighboring instability. The control variables show the expected sign and significance levels, especially human capital, and trends exhibit strong positive effects. Within R-squared values reveal higher explanatory power in the PI and NPI&PI models than in the models where only NPI is included, thereby implying the more explanatory power of domestic political instability of economic growth.

Table 5.11. Comparing the Impacts of Domestic and Neighboring Political Instabilities

Explanatory Varibles	NPI		PI		NPI&PI	
	Normal	**Robust**	**Normal**	**Robust**	**Normal**	**Robust**
NPI	-0.0841*** (0.0106)	-0.0841** (0.0342)	—	—	-0.0528*** (0.0105)	-0.0528 (0.0344)
PI	—	—	-0.1334*** (0.0078)	-0.1334*** (0.0316)	-0.1260*** (0.0081)	-0.1260*** (0.0322)
GFCF	0.0048*** (0.0005)	0.0048** (0.0017)	0.0033*** (0.0005)	0.0033** (0.0015)	0.0036*** (0.0005)	0.0036** (0.0016)
Govex	-0.0075*** (0.0008)	-0.0075** (0.0027)	-0.0053*** (0.0007)	-0.0053** (0.0024)	-0.0056*** (0.0008)	-0.0056** (0.0026)
Trade Openness	0.00035** (0.0002)	0.00035 (0.0005)	0.00049*** (0.0001)	0.00049 (0.0005)	0.00043*** (0.0001)	0.00043 (0.0005)
Human Capital	0.0463*** (0.0032)	0.0463*** (0.0126)	0.0391*** (0.0031)	0.0391*** (0.0112)	0.0404*** (0.0031)	0.0404*** (0.0114)
Population Growth	0.0145*** (0.0027)	0.0145** (0.0063)	0.0115*** (0.0025)	0.0115** (0.0055)	0.0118*** (0.0026)	0.0118** (0.0056)
lninf	-0.0094*** (0.0027)	-0.0094* (0.0048)	-0.0046* (0.0025)	-0.0046 (0.0043)	-0.0048* (0.0026)	-0.0048 (0.0044)
Trend	0.0173*** (0.0005)	0.0173*** (0.0020)	0.0182*** (0.0005)	0.0182*** (0.0016)	0.0185*** (0.0005)	0.0185*** (0.0017)
Year 2020	-0.0444*** (0.0136)	-0.0444*** (0.0089)	-0.0475*** (0.0128)	-0.0475*** (0.0084)	-0.0480*** (0.0132)	-0.0480*** (0.0087)
Constant	7.7196*** (0.0395)	7.7196*** (0.1613)	7.7732*** (0.0380)	7.7732*** (0.1465)	7.7725*** (0.0385)	7.7725*** (0.1499)
R^2 Within	0.5644	0.5644	0.5871	0.5871	0.5918	0.5918
R^2 Between	0.6805	0.6805	0.6810	0.6810	0.7165	0.7165
Wald χ^2 / F	1.19e+07	76,353.13	1.33e+07	80,156.85	1.27e+07	82,792.26

Source: Own calculations

Note: Coefficients are reported. Values in parentheses are t-statistics (derived from z-statistics). *** p<0.01, ** p<0.05, * p<0.1. All models are estimated with the fixed-effects 2SLS-FE method with robust standard errors.

The results are in line with those of Easterly and Levine (1998), who reveal that bad policies have contagious impacts, so that neighboring countries are affected by those policies too. The neighbour multiplier analysis shows that the joint implementation of policies regionally can generate a growth effect 2.2 times larger than if a single country changes its own policies. However, they emphasize that the country's own policies are more important, meaning that neighboring countries cannot free ride on the neighboring multiplier effect. On the other hand, Ades and Chua (1997) find that the impact of neighboring political instability has an equal impact to that of domestic political instability. However, it should be noted that the correlation between domestic and

regional political instability is considerably lower, with a value of 0.27, whereas it is calculated as 0.54 in this study. This variation may be the result of measurement since Ades and Chua (1997) take revolutions and coups as indicators of political instability.

The findings of the comparison can be confirmed through the country examples. The dominant role of domestic political stability in determining economic growth over the period 1996-2023, relative to the instability of neighboring countries, can be identified by the contrasting country cases. Singapore with domestic stability of 1.25, and neighboring instability of -0.22 levels over the period, Botswana with domestic stability of 1.02, and neighboring instability of -0.22 levels over the period and Qatar with domestic stability of 0.96, and neighboring instability of -0.22 levels over the period are examples of countries that have been able to sustain economic prosperity despite the regional instability surrounding them. In contrast, Papua New Guinea with domestic instability of -0.57, and neighboring stability of 0.91 levels over the period, Haiti with domestic instability of -1.03, and neighboring stability of 0.044 levels over the period, and Yemen with domestic instability of -2.04, and neighboring instability of -0.048 levels over the period are examples to the dominance of the domestic political instability such that domestic instability can reduce GDP growth, leading to economic stagnation or decline, despite relatively stable neighbors. These examples illustrate that domestic political conditions may overshadow the influence of neighboring environments in determining economic performance.

5.8.4. Comparing the Impact across Regions

Examining the impact of the political instability of neighboring countries on economic growth in a regional context is critical to understanding how geographic and socio-economic differences shape this relationship. Regional analyses show that global economic dynamics, institutional structures, and historical contexts can alter the effects of instability. In particular, differences in interregional trade, security threats, and institutional capacity can modulate the impact of instability on economic growth (Polachek & Sevastianova, 2012). Therefore, the analysis divides countries into eight geographical regions, which are South Asia, Europe and West Asia, Middle East and North Africa, East Asia and the Pacific, Sub-Saharan Africa, Latin America and the

Caribbean, North America, and Central Asia and applies the two-stage least squares fixed effects with clustered robust standard errors model for each region.

Table 5.12. The Impact of NPI across Regions

Explanatory Variables	South Asia	Europe & Western Asia	MENA	East Asia & Pacific	Sub-Saharan Africa	Latin America & Caribbean	North America	Central Asia
NPI	-0.041 (0.157)	-0.265*** (0.061)	0.038 (0.048)	0.160** (0.068)	-0.040 (0.055)	0.030 (0.041)	0.007 (0.009)	-0.018 (0.061)
GFCF	0.003 (0.003)	0.005 (0.005)	0.001 (0.003)	0.001 (0.005)	0.004 (0.002)	0.014*** (0.003)	0.007 (0.011)	0.002*** (0.001)
Govex	-0.011 (0.011)	-0.021** (0.008)	-0.011*** (0.004)	-0.002 (0.002)	-0.004 (0.006)	-0.002 (0.006)	-0.005 (0.015)	-0.026** (0.011)
TradeOpen	-0.0004 (0.002)	-0.001 (0.001)	-0.0006 (0.001)	-0.0005 (0.001)	0.001 (0.001)	-0.002** (0.001)	0.004 (0.004)	-0.001** (0.0005)
Hum.Capital	0.082*** (0.027)	0.063*** (0.018)	0.071*** (0.020)	0.085** (0.036)	0.017 (0.017)	0.037* (0.020)	-0.071*** (0.006)	0.048 (0.042)
Pop.Growth	0.058* (0.033)	0.036 (0.022)	0.006 (0.005)	0.016 (0.019)	-0.003 (0.024)	0.121*** (0.033)	-0.024* (0.014)	0.073*** (0.012)
lninf	-0.011 (0.027)	-0.001 (0.008)	-0.009 (0.010)	0.006 (0.010)	-0.004 (0.006)	-0.007 (0.011)	0.000 (0.003)	0.002 (0.015)
Trend	0.030*** (0.010)	0.024*** (0.004)	-0.002 (0.005)	0.020*** (0.005)	0.014*** (0.004)	0.018*** (0.003)	0.013*** (0.000)	0.031*** (0.008)
Year 2020	-0.043 (0.051)	-0.057*** (0.015)	-0.066*** (0.025)	-0.009 (0.022)	-0.016 (0.017)	-0.098*** (0.016)	-0.032* (0.017)	-0.021 (0.015)
Constant	6.093*** (0.237)	8.651*** (0.440)	8.273*** (0.351)	7.566*** (0.411)	6.653*** (0.159)	7.648*** (0.225)	11.515*** (0.746)	6.947*** (0.415)
R^2 Within	0.927	0.718	0.307	0.726	0.452	0.771	0.950	0.951
R^2 Between	0.176	0.627	0.277	0.420	0.460	0.125	1.000	0.681
Wald χ^2	37,351.93	89,635.83	32,714.14	60,508.24	15,887.59	34,979.15	238.03	1,831.38

Source: Own calculations
Note: Coefficients are reported. Values in parentheses are t-statistics (derived from z-statistics). *** p<0.01, ** p<0.05, * p<0.1. All models are estimated with the fixed-effects 2SLS-FE method with robust standard errors.

Table 5.12 indicates that NPI has a strong negative impact on economic growth in the Europe and West Asia region, reflecting the high vulnerability of countries in this region to neighborhood instability. This effect can be explained by the region's intense economic integration and sensitivity to security threats. In contrast to the expectations of the study, NPI has a positive and significant effect in the East Asia and Pacific region, which may suggest that neighboring instability may create economic opportunities, such as migration or a change in trade routes in some countries. In South Asia, the Middle East and North Africa, Sub-Saharan Africa, Latin America and the Caribbean, North America and Central Asia, the impact of NPI is statistically insignificant, suggesting that in these regions the

impact of neighbor instability on economic growth is limited or overshadowed by other factors.

This part of the study reveals contradictory results with previous studies based on regional differences. In previous studies, Africa and Latin America generally show significant negative results[12], whereas in this study, these regions are insignificant. On the other hand, this study reveals significant results for European countries. This divergence may be related to the varying weakness of the data across regions, but it also suggests that local factors may be more important than neighbor instability.

Among the control variables, human capital and trend show strong positive effects in most regions, while government expenditure and trade openness show negative effects in some regions. The pandemic impact is negative and significant in most regions due to global economic shocks. Within R-squared values are highest for North America and South Asia and lowest for the Middle East and North Africa, indicating that the explanatory power of the model differs regionally, so that MENA countries need to be analyzed by including additional regional factors or by examination with different model specifications. Along in a similar vein, Al and Berke (2018) conclude that the linkage between political instability and economic performance in MENA countries presents mixed results, that the significance of the variable differs according to the direction of the relationship, and the country. These findings highlight that the effects of the NPI depend on the regional context and that policymakers in regions such as Europe and West Asia should take neighboring instability issues more seriously.

5.8.5. Comparing the Impact across Income Levels of Countries

Income level plays a critical role in terms of economic resources, institutional capacity, and resilience to external shocks. Differences in income levels may make some countries more vulnerable to the economic effects of neighboring instability due to their limited financial and institutional resources, while other countries may have stronger protection mechanisms. Therefore, we divide countries into four categories based on the World Bank's income classification: low, lower-middle, upper-middle, and high income, and

[12]See (Fosu, 2003), (Campos & Nugent, 2002), (Haan & Siermann, 1996), (Jong-A-Pin, 2009)

reapply our two-stage least squares fixed effects model for each category. This subgroup analysis requires the identification of different dynamics of the effects of neighboring countries on economic growth in the case of differential effects of income level on NPI on economic growth.

Table 5.13. The Impact of NPI across Income-level Groups

Explanatory Variables	Low		Lower-Middle		Upper-Middle		High	
	N	R	N	R	N	R	N	R
NPI	-0.084*** (0.030)	-0.084 (0.077)	-0.028* (0.017)	-0.028 (0.055)	-0.096*** (0.023)	-0.096** (0.042)	-0.129*** (0.018)	-0.129 (0.091)
GFCF	-0.000 (0.001)	-0.000 (0.002)	0.006*** (0.001)	0.006*** (0.002)	0.005*** (0.001)	0.005 (0.004)	0.002*** (0.001)	0.002 (0.003)
Govex	-0.001 (0.003)	-0.001 (0.008)	-0.000 (0.001)	-0.000 (0.003)	-0.021*** (0.002)	-0.021*** (0.005)	-0.015*** (0.002)	-0.015*** (0.004)
TradeOpenness	0.002*** (0.001)	0.002 (0.002)	0.001** (0.000)	0.001 (0.001)	-0.000 (0.000)	-0.000 (0.001)	0.001*** (0.000)	0.001 (0.001)
HumanCapital	0.094*** (0.010)	0.094*** (0.035)	0.007 (0.007)	0.007 (0.022)	0.073*** (0.006)	0.073*** (0.020)	-0.008* (0.005)	-0.008 (0.014)
PopulationGrowth	-0.007 (0.009)	-0.007 (0.014)	-0.008 (0.007)	-0.008 (0.013)	0.049*** (0.008)	0.049* (0.029)	0.010*** (0.003)	0.010** (0.004)
lninf	-0.005 (0.008)	-0.005 (0.009)	-0.023*** (0.005)	-0.023** (0.010)	0.002 (0.005)	0.002 (0.013)	-0.008** (0.003)	-0.008 (0.005)
trend	0.002 (0.002)	0.002 (0.006)	0.025*** (0.001)	0.025*** (0.004)	0.021*** (0.001)	0.021*** (0.004)	0.019*** (0.001)	0.019*** (0.003)
Year 2020	0.056 (0.045)	0.056* (0.032)	-0.034 (0.025)	-0.034** (0.014)	-0.056** (0.025)	-0.056*** (0.016)	-0.042** (0.018)	-0.042*** (0.013)
Constant	5.592*** (0.076)	5.592*** (0.288)	6.866*** (0.063)	6.866*** (0.197)	7.465*** (0.084)	7.465*** (0.315)	10.158*** (0.077)	10.158*** (0.238)
Observations	499	499	997	997	1,165	1,165	1,404	1,404
R-squared (within)	0.446	0.446	0.673	0.673	0.692	0.692	0.573	0.573
Wald chi2	595840.43	10525.01	2.52e+06	14918.54	3.52e+06	44053.89	1.02e+07	83469.34

Source: Own calculations

Note: Coefficients are reported. Values in parentheses are t-statistics (derived from z-statistics). *** p<0.01, ** p<0.05, * p<0.1. All models are estimated with the fixed-effects 2SLS-IV method with robust (R) and normal (N) standard errors.

As Table 5.13 presents, the negative impact of NPI on economic growth is most pronounced in high-income countries, suggesting that these countries are economically sensitive to neighboring instability, but the loss of significance with robust standard errors may indicate more complex dynamics. The effect of NPI is also significant in the upper-middle income group, suggesting that countries in this group may be sensitive to neighboring shocks due to economic integration and regional interdependence. In low-income countries, the NPI effect is negative and significant, but the loss of significance with robust standard errors suggests that heterogeneity of country-specific attributes or data limitations may play a role in this group. In the lower-middle income group, the effect of NPI is weaker and generally insignificant, which may indicate that these countries may be less vulnerable to neighborhood instability or that other factors dominate.

Butkiewicz and Yanikkaya (2005) repeated their analysis with different measures of political instability and found similar results to this study. While measures of political violence negatively affect growth in low-income countries, measures of government instability or social instability generally do not show a statistically significant effect. Similarly, mixed results are found in high-income countries, while the impact of political instability is more pronounced in middle-income countries. The reason why they are generally not significant in low-income countries is suggested by them as such that political instability is more prevalent in these countries, and these countries already have limited economic resources. On the other hand, insignificant results in high-income countries are attributed to the fact that their strong institutions and economic resilience can partially absorb the effects of instability. At this point, the claims of Hibbs (1973) that suggest a rapid development process distort the balance between social, political, and economic change, since social and political change lag behind. Because of this imbalance, political instability exacerbates in high-income countries. The upper-middle income countries category of this study may fit this theory, suggesting vulnerability of recently developed countries.

Among the control variables, human capital in low and upper-middle-income countries and trend in middle- and high-income country groupings show consistent positive effects, while government expenditure is negative and significant in upper-middle- and high-income groups. The impact of the pandemic year is negative and significant in most

groups due to global economic shocks. Within R-squared values are higher in the upper-middle and lower-middle income groups, indicating that the model explains more variance in these groups.

Although the Europe & Western Asia and East Asia & Pacific country groups are generally in the high-income category, they are significantly negatively affected by NPI, while no significant effect is detected in the robust standard errors for the high-income country group. The reason, at this point, may be that the vulnerability of high-income countries in Europe & West Asia to NPI may depend on regional dynamics, such as intensive cross-border trade or security ties with neighboring countries, rather than income level. Besides Estonia, Finland, Lithuania, and the Russian Federation, the countries belonging to the Europe & West Asia region show similar domestic and neighboring political instabilities, which highlights the dependence on regional dynamics.

For high-income countries in East Asia and the Pacific, the positive effect can be explained by their economic flexibility and strategic position in regional trade networks. Furthermore, Taiwan, Singapore, Mongolia, Macao, Hong Kong, Japan, Australia and New Zealand are examples to the countries that have higher rates of political stability than the countries surrounding them, indicating the dominance of domestic political stability in influencing economic performance. Sub-Saharan Africa and South Asia, which mostly cover lower-middle-income countries, are generally not significantly affected by the NPI, which may be associated with less regional dependence or local factors hindering the impact of the NPI. The reduced significance of robust standard errors in high-income countries may reflect the impact of heterogeneity in this group, like the differences between high-income countries in Europe and high-income countries in East Asia. Overall, these arguments suggest that domestic political (in)stability plays a more dominant role in shaping economic performance than the NPI and that the impact of NPI depends more on regional heterogeneity than on regional dynamics, economic ties, and income levels.

After the comparisons established the empirical relationship between political instability of neighboring countries and economic growth across regions, income levels, regime types, and ethnic compositions, the analysis now makes an effort to reveal the underlying mechanisms driving these effects. The theoretical groundwork is prepared in the literature

review by situating political instability within institutional and economic growth frameworks, thereby emphasizing how external shocks can disrupt economic performances such as capital accumulation, human capital development, government spending, and trade. Various studies highlighted the potential for political instability to influence growth indirectly through various paths, in align with a perspective of the institutional approach's focus on fundamental structural determinants. The following section delves into the possible transmission channels through which neighboring political instability impacts economic growth by building on this foundation and the empirical findings presented thus far to offer a detailed examination of the mechanisms identified in the theoretical chapters.

5.9. Possible Transmission Channels

The relevant literature highlights investment, human capital, physical capital, government expenditure, property rights, trade, and defense spending as the main channels through which political instability affects economic growth[13]. Considering the content of our model, the possibility of physical capital, human capital, government expenditure, and trade openness will be analyzed to reveal if there is any evidence for them to be transmission channels.

Political instability in neighboring countries can negatively affect domestic and foreign investment by creating economic uncertainty, as investors avoid capital investment in risky regions. Our main results show that NPI has a negative impact on economic growth, suggesting that investment may be a channel influenced by NPI. The fact that the fixed capital formation variable is generally positive and significant in our analyses supports that investment is a key engine for economic growth and that NPI can distort this channel. In particular, the strong negative NPI effects observed in high-income countries and in Europe and West Asia indicate that intensive capital flows in these regions suffer from neighborhood instability. In contrast, the weak effect of NPI in lower-middle-income countries may indicate that this channel is less prominent due to the already low levels of investment in these countries.

Human capital is another potential channel through which NPI can affect economic growth, as neighborhood instability can trigger brain drain, disrupt investments in

[13] See Table 3.1

education, or reduce labor productivity. In the main results, human capital has a strong and consistent positive effect on economic growth, emphasizing the importance of this variable. Considering the -0.48 level of correlation between human capital and NPI, the overall negative effect of NPI indicates that neighborhood instability can indirectly impair human capital accumulation. For example, the strong effect of NPI in high-income countries and in Europe and West Asia may suggest that the dependence of these economies on a highly skilled workforce suffers from migration or social unrest caused by neighboring crises. Contradictorily, the positive NPI effect in East Asia and the Pacific may indicate that some countries in this region have been able to increase their stocks of human capital by attracting skilled migrants from neighboring instability. While the effect of NPI in low-income countries is insignificant with robust standard errors, it can be argued that the human capital channel is less pronounced due to the low education and health infrastructure of these countries. Further, the proxy for human capital, which is the expected average years of education, can be reconsidered to assess the representativeness of the variable.

Neighborhood instability can negatively affect economic growth by causing governments to shift resources from productive spending to security and defense spending (A. Ades & Chua, 1997, pp. 293–295). In our analyses, government expenditure generally has a negative impact, suggesting that NPI constrains growth by changing the composition of government spending. The negative effect of NPI in the main results suggests that governments may increase defense or emergency spending in response to neighborhood instability, thereby reducing productive investment. The high negative NPI effect in Europe and West Asia may indicate that countries in this region sacrifice economic growth with security-oriented spending increases. In contrast, the insignificant effect of government expenditure in lower-middle-income countries may indicate that these countries are struggling to change their expenditure allocations in response to the NPI due to their limited fiscal capacity. The positive NPI effect in East Asia and the Pacific may suggest that some countries in this region have been able to use government expenditure to support opportunities arising from the NPI.

Lastly, political instability in neighboring countries can negatively affect economic growth by disrupting cross-border trade, as the disruption of trade flows reduces export revenues, increases import costs, and disrupts regional supply chains (Qureshi, 2009, p.

4). The trade openness variable in the analyses has a positive effect on the whole model variations, supporting the idea that trade is an important engine for economic growth and that NPI can distort this channel. In particular, the strong negative NPI effect in Europe and West Asia can be explained by the fact that high-income countries in this region have extensive trade ties with neighboring countries, and NPI threatens these ties, as suggested by the geopolitical factors that threaten capital mobility and increase security concerns. For instance, a political crisis in a neighboring country can shrink export markets or increase logistics costs. In fact, the high share of intra-EU trade in world trade, which fluctuates around 60% with 61.43% for 2024 (Eurostat, 2025a), shows that the countries in the region are closely interconnected through this function, which serves as one of the key engines of economic growth. The high share of intra-EU trade in total trade, especially in Belgium over 60%, the Netherlands over 60%, the Czech Republic with 79%, Luxembourg with 81% (Eurostat, 2025b), shows that these countries have an intensive trade ties with neighboring EU countries and that these ties support their economic growth. Large economies such as Germany, France, and Finland with above 50% share of over of total trade within the EU also have high intra-trade percentages, which confirms that their economic structures are dependent on regional trade. In a similar vein, the strong negative effect of NPI in high-income countries suggests that their deep integration into global trade networks increases their vulnerability to instability-induced trade disruptions. However, the loss of significance with robust standard errors suggests that positive trade effects in regions such as East Asia may offset this negative effect. The weak effect of NPI and the non-significance of trade openness in lower-middle-income countries may indicate that these countries have limited trade ties with neighboring countries or that local economic dynamics alleviate the impact of the trade channel. These findings give a possibility for NPI to affect economic growth through the trade channel, but this effect varies according to the trade dependence of countries and regional context.

Table 5.14 stands out to reveal the possible transmission channels of physical and human capital in the regression analyses. Similarly, Table 5.15 includes the analyses for the possibility of government expenditure and trade openness as transmission channels of the impact of NPI. Every factor has three different regression analyses: the first one shows the factor as being the dependent variable, revealing the relationship between the possible

transmission channel and the factor of interest. The second one is the main regression analysis, while the third one is repeated with the factor of interest excluded. By doing so, it is expected to assess the change in the magnitude and direction of the impact of NPI such that a higher impact with the exclusion may imply the impact of the factor of interest is partially conveyed through NPI, indicating the transmission possibility of the factor of interest.

Table 5.14. Results for the Physical Capital and Human Capital Transmission Channels

Explanatory Variables	(I) GFCF	(II) lnrgdp (GFCF incl.)	(III) lnrgdp (GFCF excl.)	(IV) HumanCapital	(V) lnrgdp (HumanCapital incl.)	(VI) lnrgdp (HumanCapital excl.)
NPI	-0.675**	-0.087***	-0.090***	0.871***	-0.087***	-0.072***
	(0.342)	(0.011)	(0.011)	(0.074)	(0.011)	(0.011)
GDP Growth	0.128***			-0.026***		
	(0.017)			(0.004)		
GFCF		0.005***		0.038***	0.005***	0.006***
		(0.001)		(0.003)	(0.001)	(0.001)
Govex	0.092***	-0.007***	-0.007***	-0.005	-0.007***	-0.009***
	(0.023)	(0.001)	(0.001)	(0.005)	(0.001)	(0.001)
TradeOpenness	0.001	0.000**	0.000**	0.017***	0.000**	0.000***
	(0.005)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)
HumanCapital	0.783***	0.048***	0.052***		0.048***	
	(0.072)	(0.003)	(0.003)		(0.003)	
Labor	0.084**	-0.000	0.000	-0.089***	-0.000	-0.003**
	(0.034)	(0.001)	(0.001)	(0.007)	(0.001)	(0.001)
PopulationGrowth	0.552***	0.015***	0.017***	-0.162***	0.015***	0.015***
	(0.086)	(0.003)	(0.003)	(0.019)	(0.003)	(0.003)
Lninf	0.021	-0.009***	-0.009***	-0.171***	-0.009***	-0.012***
	(0.086)	(0.003)	(0.003)	(0.019)	(0.003)	(0.003)
trend		0.017***	0.017***		0.017***	0.023***
		(0.001)	(0.001)		(0.001)	(0.000)
Year 2020		-0.045***	-0.051***		-0.045***	-0.057***
		(0.014)	(0.014)		(0.014)	(0.014)
Constant	5.419**	7.707***	7.728***	16.229***	7.707***	8.400***
	(2.439)	(0.082)	(0.083)	(0.470)	(0.082)	(0.070)
Observations	4,054	3,999	3,999	4,054	3,999	4,032
Number of Countries	161	159	159	161	159	160
R-squared (within)	0.051	0.563	0.552	0.173	0.563	0.538
Wald chi2	84108.80	1.16e+07	1.13e+07	526854.14	1.16e+07	1.09e+07

Source: Own calculations

Notes: The dependent variables are GFCF (column 1), Human Capital (column 4), and lnrgdp (columns 2, 3, 5, 6). All regressions are fixed-effects instrumental variable regressions. Standard errors are in parentheses. Significance levels: * p<0.1, ** p<0.05, *** p<0.01. Year-fixed effects for 2009 are included in columns 2, 3, 5, and 6 but are not reported.

Necessary tests were performed to discuss possible transmission channels. First, minor changes were made in the regression analysis. This time, GDP growth was added as an explanatory variable for possible channels. Since no trend was observed in this series, it was removed from the explanatory variables. Model I in Table 5.14 shows that NPI negatively and significantly affects fixed capital formation, confirming that neighborhood instability indirectly constrains economic growth by deteriorating investment decisions. Models II and III in Table 5.14 reveal that the impact of NPI on economic growth is -0.087 and -0.090, respectively, when GFCF is included and excluded. The slightly reduced impact of NPI in the presence of the GFCF indicates that investments partially absorb the negative impact of NPI, but the main effect persists. This suggests that neighborhood instability reduces capital accumulation by discouraging investment decisions through increased uncertainty. The positive and significant effect of GFCF on economic growth supports that investment is an important channel through which NPI affects economic growth. This channel suggests that the economic effects of NPI may be more pronounced in investment-intensive economies like high-income ones.

Model IV in Table 5.14 shows that NPI positively and significantly affects human capital, suggesting that neighborhood instability may increase human capital accumulation through flows of skilled migrants from unstable regions in some cases. However, Models V and VI in Table 5.14 show that the impact of NPI on economic growth is respectively -0.087 and -0.072 when human capital is included and excluded. The reduction in the negative impact of NPI with the exclusion of human capital suggests that this channel may alleviate the negative impact of NPI on economic growth.

The claims of Gyimah-Brempong and Camacho (1998) support this possibility, such that human capital flows out in the case of an increase in political instability in a country. From this perspective, the mobile characteristic of human capital may have an inverse role in the impact of neighboring political instability compared to that of domestic political instability, with a positive spillover impact on its neighbors. The findings of Fischer et al. (2009) also support these results, such that the effect of an increase in human capital in neighboring regions is negative. In other words, an increase in human capital in one region can reduce the productivity of neighboring regions. This highlights the

importance of relative regional advantages; an increase in human capital in one region can increase competition with neighboring regions.

A famous example of the brain drain-led increase in productivity is the Jewish scientists who fled to the US during World War II, contributing to the science and technology in the host country. In a similar vein, Benitez-Rueda (2023) reaches the conclusion that Venezuelan forced migration to Colombia leads to an increase in productivity in Colombia due to the higher average education rates of Venezuelans. The report of Deloitte indicates that the Ukrainian migrants increase the productivity in Poland through new skills and extend the scope of specialization (2024). Apart from the skilled migration, although Türkiye has not witnessed skilled migration, Çakır and others (2023) claim that the Syrian refugee influx to Türkiye pushes the labor supply in the informal sector to school attainment, thereby indirectly increasing human capital in Türkiye. Though there are cases of political crises that benefit the surrounding countries, the distorting factors through spillover of politically destabilizing events, as the study suggests, usually overshadow the positive side effects. This suggests that neighborhood instability has a mixed effect on human capital: while some economies can strengthen human capital through migrant labor, overall, NPI can constrain economic growth through social unrest or reduced investment in education. In their studies, which have similar findings on the relationship between human capital and political instability, Benhabib and Spiegel (1992, p. 24) claim that the unexpected impact of human capital could stem from multicollinearity between these two factors. Overall, the positive effect of human capital on growth does not confirm that this channel plays an important role in establishing the model for the effects of NPI.

Table 5.15. Results for Government Expenditure and Trade Openness Transmission Channels

Explanatory Variables	(I) Govex	(II) lnrgdp (Govex incl.)	(III) lnrgdp (Govex excl.)	(IV) TradeOpenness	(V) lnrgdp (TradeOpenness incl.)	(VI) lnrgdp (TradeOpenness excl.)
NPI	1.118*** (0.239)	-0.087*** (0.011)	-0.071*** (0.010)	0.704 (1.121)	-0.087*** (0.011)	-0.086*** (0.011)
GDPgrowth	-0.090*** (0.012)			0.571*** (0.056)		
GFCF	0.044*** (0.011)	0.005*** (0.001)	0.004*** (0.000)	0.007 (0.053)	0.005*** (0.001)	0.005*** (0.001)
Govex		-0.007*** (0.001)		0.329*** (0.075)	-0.007*** (0.001)	-0.007*** (0.001)
TradeOpenness	0.015*** (0.003)	0.000** (0.000)	0.000** (0.000)		0.000** (0.000)	
HumanCapital	-0.044 (0.051)	0.048*** (0.003)	0.052*** (0.003)	3.820*** (0.232)	0.048*** (0.003)	0.048*** (0.003)
labor	0.017 (0.024)	-0.000 (0.001)	-0.002** (0.001)	0.259** (0.111)	-0.000 (0.001)	-0.000 (0.001)
PopulationGrowth	-0.097 (0.061)	0.015*** (0.003)	0.017*** (0.003)	1.495*** (0.282)	0.015*** (0.003)	0.015*** (0.003)
lninf	-0.121** (0.060)	-0.009*** (0.003)	-0.008*** (0.003)	1.976*** (0.280)	-0.009*** (0.003)	-0.009*** (0.003)
trend		0.017*** (0.001)	0.017*** (0.001)		0.017*** (0.001)	0.017*** (0.001)
Year 2020		-0.045*** (0.014)	-0.060*** (0.014)		-0.045*** (0.014)	-0.048*** (0.014)
Constant	13.635*** (1.694)	7.707*** (0.082)	7.592*** (0.082)	8.958 (7.988)	7.707*** (0.082)	7.722*** (0.082)
Observations	4,054	3,999	4,391	4,054	3,999	4,010
Number of Countries	161	159	166	161	159	159
R-squared (within)	0.029	0.563	0.543	0.101	0.563	0.564
Wald chi2	84866.24	1.16e+07	1.05e+07	107150.62	1.16e+07	1.16e+07

Source: Own calculations

Notes: The dependent variables are Govex (column 1), TradeOpenness (column 4), and lnrgdp (columns 2, 3, 5, 6). All regressions are fixed-effects instrumental variable regressions. Standard errors are in parentheses. Significance levels: * p<0.1, ** p<0.05, *** p<0.01. Year-fixed effects for 2009 are included in columns 2, 3, 5, and 6 but are not reported.

Model I in Table 5.15 shows that NPI positively and significantly increases government expenditure, which implies that neighborhood instability may increase government expenditure. Models II and III in Table 5.15 show that the impact of NPI on economic growth is respectively -0.087 and -0.071 when government expenditure is included and excluded. The reduction in the negative impact of NPI with the exclusion of government expenditure implies that government expenditures may exacerbate the negative impact of NPI on economic growth. This supports the idea of Ades and Chua (1997) that neighborhood instability constrains economic growth by shifting resources from productive investments such as R&D or infrastructure to unproductive areas such as security or defense. The findings of the study of Gupta and others (2002, p. 16) In low- and middle-income countries, support the claim that terrorism and conflict force governments to increase the share of defense spending, resulting in a deterioration of spending on health, infrastructure, and education. Rwanda shifts the spending of its public resources to military equipment because of the turmoil between its neighbors. Grechyna (2016, p. 491) argues that countries with lower public rent-seeking and public debt levels tend to exhibit greater political stability, such that Luxembourg, with a high level of political stability within the countries included in the analysis, demonstrates high political stability and the lowest public debt, while Italy, exampled by low political stability, has high public debt and high public consumption. Similarly, Lubu and others (2023) reveal that the political instability in the Democratic Republic of Congo hinders public infrastructure, thereby causing GDP growth to diminish.

Model IV in Table 5.15 shows that NPI has no statistically significant impact on trade openness. Therefore, NPI seems not to affect economic growth directly through the trade channel. Further, Models V and VI show that the impact of NPI on economic growth is -0.087 and -0.086 when trade openness is included and excluded, confirming that trade openness plays almost no role in the transmission of the negative impact of NPI. The weak positive effect of trade openness on economic growth indicates that this channel plays a secondary role in NPI's influence on economic growth.

According to the analyses to discover the potential transmission channels, investment seems to be a possible key channel through which NPI creates uncertainty and reduces capital accumulation. Government expenditure might be reinforcing the destructive

impact of NPI by shifting resources to unproductive areas. Human capital, while having a positive impact in some contexts through migrant flows, does not fully offset the negative impact of NPI in general. Trade openness is not a decisive channel through which NPI affects economic growth. Despite the strong negative correlation between human capital and neighboring political instability, the unexpected outcomes of the analyses need to be extended with diverse modelings and data.

5.10. Robustness Checks

Robustness testing is a critical step in academic research to verify the reliability and generalizability of results. These tests assess the consistency of results when model specifications, data measurements, or assumptions change in order to present that findings are not affected by biases or data limitations (Lu & White, 2014). In particular, measurement methods of variables or model assumptions may affect the results in studies examining the economic effects of complex phenomena such as political instability. Robustness tests confirm the robustness of the findings by using alternative measurement methods or model specifications, thus increasing the scientific credibility of the study. In this context, recalculating the NPI with a different weighting method, instrumenting the NPI, utilizing different measurements of political instability, and employing different estimators are important steps to test potential biases of the original measurement and to confirm the generality of the findings.

5.10.1. Cumulative Trade Weighted Neighboring Political Instability

The results of eight regressions testing the impact of cumulative trade-weighted neighboring political instability on economic growth in different model specifications are shown in Table 5.16. In Model I, the effect of CNPI is insignificant, but in Models II to VIII, the effect of CNPI is negative and statistically significant. This indicates that CNPI has a consistent negative impact on economic growth and is broadly consistent with the original NPI findings. The slightly larger coefficients of the CNPI compared to the original NPI may stem from the fixed weighting based on cumulative trade volume, which more clearly captures the long-term economic effects of neighborhood instability. Among the control variables: human capital, fixed capital formation, trend, and population growth show positive and significant effects, while government expenditure and inflation show

negative effects. Within R-squared and between R-squared values indicate that the explanatory power of the model is similar to the original NPI models.

Table 5.16. Main Regression Models with Cumulative Trade Weighted NPI

Explanatory Variables	I	II	III	IV	V	VI	VII	VIII
CNPI	-0.032 (0.037)	-0.080** (0.033)	-0.100*** (0.035)	-0.100*** (0.035)	-0.101*** (0.035)	-0.100*** (0.035)	-0.101*** (0.035)	-0.100*** (0.035)
HumanCapital	0.129*** (0.011)	0.052*** (0.013)	0.045*** (0.013)	0.045*** (0.013)	0.045*** (0.013)	0.046*** (0.014)	0.046*** (0.014)	0.045*** (0.014)
GFCF	0.004** (0.002)	0.005*** (0.002)	0.005*** (0.002)	0.005*** (0.002)	0.005*** (0.002)	0.005*** (0.002)	0.005*** (0.002)	0.005*** (0.002)
Govex			-0.008*** (0.003)	-0.008*** (0.003)	-0.007*** (0.003)	-0.008** (0.003)	-0.007** (0.003)	-0.007** (0.003)
TradeOpenness			0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)
trend		0.017*** (0.002)	0.017*** (0.002)	0.018*** (0.002)	0.018*** (0.002)	0.017*** (0.002)	0.018*** (0.002)	0.017*** (0.002)
PopulationGrowth					0.014** (0.006)		0.015** (0.007)	0.015** (0.007)
labor						-0.000 (0.005)	-0.000 (0.005)	-0.000 (0.005)
lninf								-0.010** (0.005)
Year 2009	-0.016* (0.009)	0.006 (0.008)		0.012 (0.009)	0.010 (0.009)	0.012 (0.009)	0.010 (0.009)	0.007 (0.009)
Year 2020	0.030** (0.012)	-0.060*** (0.007)		-0.044*** (0.009)	-0.044*** (0.009)	-0.045*** (0.013)	-0.044*** (0.012)	-0.045*** (0.012)
Constant	6.736*** (0.134)	7.479*** (0.154)	7.730*** (0.162)	7.735*** (0.163)	7.710*** (0.161)	7.718*** (0.430)	7.688*** (0.427)	7.724*** (0.425)
Observations	4,445	4,445	4,041	4,041	4,041	3,975	3,975	3,945
Number of Countries	170	170	163	163	163	160	160	157
R-squared (within)	0.427	0.542	0.563	0.565	0.568	0.562	0.565	0.566
R-squared (between)	0.614	0.588	0.547	0.544	0.544	0.544	0.545	0.679
Wald chi2	39484.60	49141.42	45395.72	84601.86	84139.14	81260.17	81443.25	88427.90

Source: Own calculations

Notes: The dependent variable is lnrgdp. All regressions are 2SLS-FE regressions with CNPI instrumented by its first lag (L.CNPI). Clustered robust standard errors reported are in parentheses. Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

These test results show that the negative impact of CNPI on economic growth emerges in more extensive specifications of the model, confirming that the original NPI findings are robust. It can be argued that fixed weighting more clearly captures the impact of the NPI by emphasizing long-term economic ties with neighboring countries.

5.10.2. Instrumenting the Political Instability Index of Neighboring's Neighbors

In our analysis of the impact of the political instability of neighboring countries on economic growth, we originally used lagged NPI as an instrument to address the endogeneity issue of NPI. However, the possibility that lagged NPI may not fully capture exogeneity is a concern, especially if political instability is indirectly related to the economic growth of the host country. Such endogeneity could lead to biased estimates of the impact of NPI on economic growth. Therefore, using neighbors' neighbors' political instability (NNPI) as an alternative instrument for NPI may be a powerful approach to address the endogeneity issue more effectively.

To illustrate the concept of using the neighbor's neighbors' political instability as an instrument, considering a country like Türkiye as the host country can be instructive. Türkiye's immediate neighbors include countries like Syria and Iraq, which experience political instability that directly affects Türkiye's economic growth. However, the political instability in the neighbors of these neighbors—such as Jordan as a neighbor of Syria or Saudi Arabia as a neighbor of Iraq is less likely to directly influence the economic performance of Türkiye. For instance, political violence in Jordan may affect Syria's instability but is unlikely to have a direct economic impact on Türkiye, which makes Jordan's instability a potential instrument for Türkiye's neighbors' political instability (NPI). Similarly, considering Kenya with neighbors like Uganda and Tanzania such that the political instability in Rwanda, a neighbor of Uganda but not Kenya, could serve as an NNPI for Kenya. Therefore, the political instability of Rwanda may influence Uganda but is less likely to directly affect the economic growth of Kenya. By using NNPI, the exogenous variation in NPI can be isolated more effectively, thereby reducing the risk of biased estimates resulting from endogeneity.

The political instability in a country's neighbors' neighbors (second-order neighbors) may better satisfy the exogeneity assumption since a direct relationship with the economic growth of the host country is not expected. The NNPI is expected to be strongly correlated

with the NPI because regional instability is often geographically diffuse, and political dynamics between neighboring countries influence each other, as discussed in the comparison of neighboring and domestic political instability section. For example, instability in a neighboring country's neighborhood can indirectly destabilize the political environment of that neighboring country, thus affecting the NPI. However, the NNPI is unlikely to have a direct link to the economic growth of the host country, as second-order neighbors usually have less dependency on the host country economically or politically. This makes the NNPI a valid instrument for the NPI because two basic conditions of the instrumental variable, which are that NNPI should be related to the NPI and it should not be directly related to the economic growth of the host country, are met.

Table 5.17. Main Regression Models with NNPI as Instruments of NPI

Explanatory Variables	I	II	III	IV	V	VI	VII	VIII
NPI	0.014	-0.486**	-0.501*	-0.501*	-0.517*	-0.490**	-0.502**	-0.501**
	(0.155)	(0.245)	(0.261)	(0.261)	(0.265)	(0.244)	(0.246)	(0.247)
HumanCapital	0.128***	0.054***	0.052***	0.051***	0.052***	0.056***	0.056***	0.058***
	(0.012)	(0.015)	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)	(0.016)
GFCF	0.005**	0.005**	0.005**	0.005**	0.004**	0.005**	0.004**	0.004**
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Govex			-0.006**	-0.006**	-0.006*	-0.005*	-0.005	-0.005
			(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
TradeOpenness			0.001	0.001	0.001	0.000	0.000	0.000
			(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
trend		0.020***	0.020***	0.020***	0.020***	0.019***	0.020***	0.019***
		(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
PopulationGrowth					0.011		0.009	0.010
					(0.007)		(0.007)	(0.007)
labor						0.005	0.005	0.005
						(0.006)	(0.006)	(0.006)
lninf								-0.001
								(0.008)
Year 2009	-0.014	0.016		0.023	0.022	0.019	0.018	0.019
	(0.009)	(0.015)		(0.017)	(0.017)	(0.016)	(0.016)	(0.017)
Year 2020	0.030**	-0.061***		-0.044***	-0.044***	-0.043***	-0.042***	-0.043***
	(0.012)	(0.009)		(0.012)	(0.012)	(0.014)	(0.014)	(0.014)
Constant	6.730***	7.520***	7.660***	7.667***	7.645***	7.324***	7.292***	7.270***
	(0.132)	(0.169)	(0.188)	(0.188)	(0.193)	(0.489)	(0.486)	(0.507)
Observations	4,606	4,606	4,184	4,184	4,184	4,116	4,116	4,083
Number of Groups	170	170	163	163	163	160	160	157
R-squared (within)	0.441	0.293	0.307	0.308	0.291	0.327	0.314	0.310
R-squared (between)	0.611	0.537	0.535	0.532	0.529	0.517	0.514	0.548
Wald chi2	39263.10	38747.20	39742.04	56231.62	55214.60	55325.03	54661.46	62456.87

Source: Own calculations

Notes: The dependent variable is lnrgdp. All regressions are 2SLS-FE regressions with NPI instrumented by NNPI. Clustered robust standard errors reported are in parentheses. Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

The results in Table 5.17 show that the impact of NPI on economic growth is generally negative in models where NNPI is used as an instrument for NPI, but the significance and coefficient size vary depending on the model specification. In Model I, the effect of NPI is positive and insignificant, which may be due to the model not being sufficiently specified with limited control variables. However, in Models II to VIII, the effect of the NPI is negative and statistically significant, indicating that the NPI captures a negative effect using the NNPI as an instrument, consistent with the original findings. Compared to the main models' NPI and CNPI coefficients, the coefficients in the NNPI models are larger, which may suggest that NNPI corrects for endogeneity bias, yielding a stronger effect of NPI on economic growth. Among the control variables, human capital, physical capital, and trend show positive and significant effects, while government spending is negative but insignificant in some models. Within and between R-squared values are lower compared to the main NPI and CNPI models, which suggests that the NNPI may not be able to explain more variation but may offer more accurate causal estimates with endogeneity correction.

The possibility that the NNPI is a more exogenous instrument for the NPI increases the credibility of the findings by addressing potential endogeneity issues of the main models. The insignificant effect in Model I may be due to the limited control variables not fully reflecting the relevance of the NNPI; however, with the inclusion of additional control variables, the negative effect of the NPI becomes consistently significant. These results confirm that the negative impact of NPI on economic growth is robust regardless of the choice of measurement or instrument. However, the lower R-squared values and weak significance in some models may indicate that the relevance of NNPI to NPI may not be as strong as the main models or that data variation is limited.

5.10.3. Changing Worldwide Governance Index with Fragile Index Dataset

Another method of robustness is to change the dataset to follow possible variations in the results. From this perspective, replacing the data source of the Worldwide Governance Indicators with the NBFSI, a version of the Fragile States Index generated to represent the instability of neighboring countries, is another approach to test the robustness of the NPI measure with an alternative index. The NBFSI is derived from sub-indicators of the FSI covering political, social, and security dimensions, while economic sub-indicators, which are economic inequality and economic decline, are omitted to avoid the risk of

collinearity. This ensures that the NBFSI is free of economic dimensions that may be directly related to economic growth, strengthening the focus of neighboring political instability on the effects of political instability.

As discussed in the data and methodology chapter, the FSI is a widely accepted index that measures state fragility in a multidimensional way and comprehensively captures different aspects of political instability, such as security threats and institutional weakness. Further, removing economy-related sub-indicators reduces the risk of endogeneity of the NBFSI with economic growth, resulting in a more exogenous measure. Third, the NBFSI is highly correlated with the NPI at 0.88 level because both measure the instability of neighboring countries, but the NBFSI's use of a different methodology and data source allows us to test potential biases of the NPI measure.

Table 5.18. Main Regression Models with NBFSI as the Explanatory Variable

Explanatory Variables	I	II	III	IV	V	VI	VII	VIII
NBFSI	-0.009*	-0.011**	-0.014***	-0.014***	-0.015***	-0.015***	-0.015***	-0.014***
	(0.005)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
HumanCapital	0.090***	0.044**	0.037**	0.037**	0.038**	0.037**	0.038**	0.039**
	(0.014)	(0.018)	(0.017)	(0.017)	(0.016)	(0.017)	(0.017)	(0.017)
GFCF	0.005***	0.006***	0.008***	0.007***	0.007***	0.008***	0.007***	0.007***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Govex			-0.009***	-0.009***	-0.008***	-0.008***	-0.008***	-0.008***
			(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
TradeOpenness			-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
			(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
trend		0.013***	0.013***	0.014***	0.014***	0.014***	0.014***	0.014***
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
PopulationGrowth					0.018***		0.018***	0.018***
					(0.004)		(0.004)	(0.004)
labor						0.001	0.001	0.001
						(0.004)	(0.004)	(0.004)
lninf								-0.010**
								(0.004)
Year 2009	-0.063***	-0.014***		-0.002	-0.003	-0.002	-0.002	-0.005
	(0.012)	(0.005)		(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Year 2020	-0.006	-0.058***		-0.052***	-0.053***	-0.053***	-0.053***	-0.054***
	(0.013)	(0.007)		(0.011)	(0.011)	(0.013)	(0.013)	(0.012)
Constant	7.736***	8.168***	8.609***	8.613***	8.572***	8.543***	8.478***	8.466***
	(0.293)	(0.292)	(0.327)	(0.326)	(0.313)	(0.490)	(0.474)	(0.471)
Observations	2,978	2,978	2,727	2,727	2,727	2,680	2,680	2,661
Number of Countries	168	168	160	160	160	157	157	155
R-squared (within)	0.177	0.270	0.288	0.294	0.308	0.289	0.304	0.312
R-squared (between)	0.686	0.628	0.553	0.544	0.548	0.547	0.552	0.568
Wald chi2	2453.89	4810.09	34703.52	83766.64	81659.65	83456.55	83972.35	87646.81

Source: Own calculations

Notes: The dependent variable is lnrgdp. All regressions are 2SLS-FE regressions with NBFSI instrumented by L.NPI. Clustered robust standard errors reported are in parentheses. Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

The results show that the impact of NBFSI on economic growth is consistently negative and statistically significant. In Model I, the impact of NBFSI is weakly significant, but from Model II to VIII, the impact is stronger and significant. This indicates that the NBFSI confirms that the political instability of neighboring countries negatively affects economic growth and is consistent with the original NPI findings. The coefficients of the NBFSI are smaller than the original NPI, CNPI, and especially the NNPI (-0.501) because its scale is much broader than that of NPI. Consistent with the main results, control variables, including human capital, physical capital, trend, and population growth, show positive and significant effects, while government expenditure and inflation show negative effects. However, low within R-squared values and fewer observations suggest that the NBFSI may have limitations in terms of data coverage or variation in explanatory power. Observation coverage supports that inference such that it is more limited than the main models because FSI data only extends through the year 2006.

5.10.4. Testing the Models with a Different Estimator: System-GMM

The two-step System GMM is a powerful econometric method for analyzing economic growth in dynamic panel data models and is particularly widely used in this field. The use of this method in our study of the impact of political instability of neighboring countries on economic growth aims to test robustness and solve some methodological problems encountered in previous fixed effects models. In dynamic models where economic growth is affected by past values, the inclusion of the lagged value of the dependent variable as an explanatory variable in the fixed effects model may result in biased estimates due to correlation with individual effects. System GMM corrects this bias by combining level and difference equations and accurately models the dynamic structure (Blundell & Bond, 1998).

This method addresses several key issues, such that it addresses the risk of endogeneity stemming from reverse causality with the economic growth of the main explanatory variables. GMM provides consistent estimates using lagged values of these variables as instruments. Second, it solves the problems of heteroskedasticity and autocorrelation in panel data with robust standard errors generated by two-stage estimation and Windmeijer's (2005) finite sample correction. Third, it is suitable for panels with a large number of countries and a limited time period, as in this study, because it utilizes both

cross-country and within-country variation, which improves estimation efficiency. With these features, the two-step System GMM provides more reliable causal inference by addressing endogeneity, dynamic bias, and error structure issues. Our previous results were obtained with static models; thus, System GMM tests the robustness of these findings by providing a dynamic framework and contributes to the inferences. Lastly, the trend and year dummies used in earlier models to capture time effects may often not be needed, because the dynamic nature of the model and the GMM instruments capture time effects indirectly. Therefore, time-related variables are removed from all variations.

Table 5.19. Two-Step System GMM Regression Results

Explanatory Variables	I	II	III	IV	V	VI	VII
L.lnrgdp	0.966***	0.970***	0.974***	0.971***	0.976***	0.981***	0.980***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
NPI	-0.029***	-0.027***	-0.023***	-0.027***	-0.022***	-0.020***	-0.021***
	(0.008)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)
HumanCapital	0.008***	0.008***	0.006***	0.008***	0.006***	0.004**	0.004**
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
GFCF	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Govex		-0.001***	-0.001***	-0.002***	-0.002***	-0.002***	-0.002***
		(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
TradeOpenness		0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
PopulationGrowth			-0.003**		-0.003**	-0.004***	-0.003***
			(0.001)		(0.001)	(0.001)	(0.001)
labor				-0.000	0.000	0.000	
				(0.000)	(0.000)	(0.000)	
lninf						-0.001	-0.002*
						(0.001)	(0.001)
Constant	0.186***	0.168***	0.155***	0.171***	0.150***	0.130***	0.137***
	(0.035)	(0.032)	(0.030)	(0.037)	(0.036)	(0.035)	(0.028)
Observations	4,659	4,238	4,238	4,170	4,170	4,137	4,205
Number of Groups	172	165	165	162	162	159	162
Number of Instruments	160	162	163	163	164	165	164
AR(1) z (p-value)	-3.12	-2.75	-2.76	-2.69	-2.69	-2.69	-2.76
	(0.002)	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.006)
AR(2) z (p-value)	0.09	-0.14	-0.12	-0.11	-0.09	-0.11	-0.15
	(0.928)	(0.886)	(0.901)	(0.911)	(0.929)	(0.910)	(0.883)
Hansen chi2 (p-value)	168.65	163.67	163.52	160.37	160.78	157.98	161.42
	(0.214)	(0.301)	(0.304)	(0.367)	(0.359)	(0.418)	(0.346)

Source: Own calculations

Notes: The dependent variable is lnrgdp. All regressions are two-step system GMM estimations with L.lnrgdp and NPI instrumented using GMM-type instruments (lags 2 to 3). Standard errors,

corrected for finite-sample bias, are in parentheses. Significance levels: * p<0.1, ** p<0.05, *** p<0.01.

The results in Table 5.19 show that the impact of NPI on economic growth is negative and statistically significant in all models. This confirms that NPI has a consistently negative impact on economic growth and is consistent with the original NPI, CNPI, NNPI, and NBFSI findings. However, the GMM coefficients are smaller than the original NPI, which may suggest that the dynamic structure of the System GMM and the endogeneity correction capture the effect of the NPI in a more subtle way, but show that the negative effect is robust. The lagged dependent variable exhibits a strong positive effect in all models, suggesting a high degree of persistence of economic growth and that past growth strongly influences current growth. Among the control variables, human capital, physical capital, and trade openness show positive effects, while government expenditure and population growth show negative effects, and inflation is insignificant in some models. The labor effect is close to zero and insignificant, which may indicate that the impact of labor on growth is limited, similar to the main results.

In terms of model performance, considering the seventh model, AR (1) tests with a lower than 0.01 probability confirm first-order autocorrelation, while AR (2) tests with a higher than 0.883 probability show no second-order autocorrelation, confirming that the model is correctly specified. The Hansen tests with a higher probability than 0.346 confirm that the instruments are exogenous and that the overidentification restrictions hold. However, the fact that the number of instruments is close to the number of countries may indicate the risk of over-identification. This requires caution in interpreting the coefficients, but the high p-values of the Hansen test suggest that this risk is limited. These results support the view that neighborhood instability threatens economic growth since instrument validity and robust standard errors of the GMM enhance the reliability of the findings and confirm that previous robustness analyses are also valid in a dynamic framework.

5.11. Concluding Remarks on the Chapter

The results and discussion section presents a comprehensive analysis of the impact of neighboring political instability on economic growth, utilizing a two-stage least squares fixed effects model to address endogeneity concerns as well as provide robust causal inferences. The findings demonstrate that neighboring political instability has a negative

and statistically significant effect on economic growth across various model specifications. The analyses reveal that domestic political instability exerts a more pronounced negative effect on economic growth compared to neighboring political instability, highlighting the priority of internal stability in influencing economic outcomes. The study further explores how the impact of neighboring political instability varies across different country features of regime types, ethnic fractionalization, income levels, and geographic regions. Regional analyses indicate that high-income regions like Europe and West Asia experience stronger negative effects, probably due to extensive trade and capital flow interconnections, while lower-middle-income countries show weaker effects, likely due to limited integration in these regions. Transmission channels of physical capital, human capital, government expenditure, and trade openness were examined to understand the mechanisms through which neighboring political instability affects economic growth. The results suggest that disruptions in investment flows are significant pathways, particularly in high-income and trade-dependent regions. Human capital also plays a critical but reverse role, such that neighboring political instability potentially exacerbates skilled migration out of domestically unstable countries and reduces labor productivity. Similarly, the analysis indicates that government expenditure shows mixed effects, suggesting that these channels may be less dominant in mediating the impact of neighboring political instability.

Robustness tests, including alternative weighting methods for neighboring political instability, different instruments, and System GMM estimations, confirm the reliability and insensitivity of the findings. These tests address potential biases from measurement approach, model specifications, and data limitations to reinforce the conclusion that neighboring political instability is a significant determinant of economic growth. The presence of autocorrelation and heteroskedasticity in the error terms was confirmed so that robust standard errors were employed to ensure the reliability of statistical inferences.

CONCLUSION

This study sets out to investigate the impact of political instability in neighboring countries on economic growth by addressing a critical gap in the literature on economic growth and political instability. The study examined how neighboring political instability affects growth by making efforts to establish its primary transmission channels and explored variations across geographical regions, ethnic structures, regime types, and income levels, as well as variations between domestic and regional political instability in the direction of research questions. The analysis is conducted on a panel dataset covering up to 172 countries to ensure causal inference and robustness by employing a robust econometric framework based on two-stage least squares fixed effects and System GMM methods.

Summary of Findings

The findings reveal a complicated and context-dependent impact of neighboring political instability on economic performance, varying significantly by region, income level, regime type, and ethnic fragmentation. The analysis also compares the effects of domestic and neighboring political instability to assess their relative contributions to economic performance. The study endeavors to clarify the interconnectedness of political and economic structures by combining the analysis results with theoretical insights from economic growth models and institutional economics, due to the assertion that understanding cross-country income disparities requires this combination.

Research objective-1: The primary finding is that political instability in neighboring countries generally exerts a negative effect on the economic growth of host countries, developed by the uncertainty and disruptions that resulted from the spillover effect of political instability across neighbors. This adverse impact is most pronounced in

economies with high levels of economic interdependence with their neighbors, in cases where dense trade, investment, and security ties amplify the spillover effects of instability. The uncertainty stemming from neighboring destabilization may discourage capital formation, increase security-related expenditures, or distort human capital in certain areas with migration, all of which can constrain economic growth. However, the effect is not uniform but has significant variations across country groupings. In some instances, neighboring instability fosters economic opportunities, such as through inflows of skilled migrants or trade rerouting, though these positive effects are less common and highly country-specific. Economies with limited regional integration or strong domestic institutions may experience an insignificant impact, suggesting that local factors could overshadow the impact of external shocks.

Research objective-2: Regional differences further highlight the complicated nature of this relationship. The negative effect of neighboring instability is particularly strong in regions characterized by high economic integration, as disruptions in one country can destabilize regional supply chains, deter foreign investment, or raise security concerns, thereby directly affecting the economic performance of neighboring countries. On the contrary, some regions exhibit positive effects that can result from adaptive responses to instability, such as shifts in trade routes or increased migration that foster domestic economies. These positive outcomes are typically observed in regions with flexible economic structures or strategic geographic positions. Other regions show insignificant effects, where domestic determinants or limited interdependence may overshadow the influence of neighboring instability. These variations reveal the critical role of geographic and economic contexts in shaping the transmission of instability's effects, its direction, and magnitudes.

Research objective-3: The impact of neighboring political instability also varies across income levels, with high-income countries experiencing the most pronounced negative effects. Their deep integration into global and regional economic networks makes them particularly sensitive to disruptions in neighboring countries, as instability disrupts stable trade and investment environments that are critical to their economic performance. Upper-middle-income countries show similar but less consistent sensitivity, reflecting variations in economic integration and institutional capacity. Lower-middle and low-

income countries often exhibit weaker or insignificant effects, likely due to their limited reliance on regional ties or the dominance of domestic factors. However, the findings for low-income countries are less robust, possibly due to data heterogeneity or their economic isolation from the regional and global economic networks, which may insulate them from external shocks while exposing them to other challenges.

Research objective-4: The study further explores how regime type influences the relationship between neighboring political instability and economic growth in two stages. The first stage focuses on the moderating role of a country's level of democracy on the impact of NPI. The interaction term between democracy and NPI is statistically insignificant for all models, suggesting that the level of democracy does not significantly moderate NPI's economic impact, while democracy's direct effect on growth is positive but insignificant with clustered standard errors. Given the lack of significant interaction and level effects, the analysis shifts to subgroup analyses by classifying countries into four regime types: liberal democracy, electoral democracy, electoral autocracy, and closed autocracy. Electoral democracies exhibit the largest and most significant negative NPI coefficient, indicating heightened vulnerability to neighborhood instability. Electoral autocracies show a smaller but still significant effect, while the impact is generally insignificant in liberal democracies and closed autocracies. Overall, while the level of democracy does not significantly moderate the economic impact of NPI in the aggregate, regime-type subgroup analysis reveals that hybrid regimes, whether electoral democracies or electoral autocracies, are vulnerable to external political instability. This suggests that well-established institutional structures, whether fully democratic or fully autocratic, may enhance resilience to neighboring instability, while mixed regimes apparently suffer from neighboring destabilizing events. These findings suggest that political institutions shape the extent to which neighboring instability impacts growth, with mixed regimes facing greater exposure to the political instability of their neighbors.

Research objective-5: Ethnic fragmentation is included to reflect the complexity of the county-specific factors, considering the complicated nature of the political environment. Countries with high levels of ethnic diversity are more vulnerable to the negative effects of neighboring instability because external political stress can exacerbate domestic ethnic tensions, leading to social unrest or a reduction in social cohesion. This amplifies the

economic disruptions caused by political instability, as resources are diverted to manage the consequences of conflicts, and investor confidence diminishes. In contrast, ethnically homogeneous countries are better structured to absorb external shocks, as their social cohesion mitigates the spillover effects of neighboring instability. However, high ethnic fragmentation can also create opportunities under certain combinations of country attributes, such as when diverse populations facilitate migration or trade networks that benefit from instability-driven shifts. These dynamics highlight the interplay between domestic social structures and external political environments, underscoring the need for a sophisticated understanding of how ethnic composition mediates economic outcomes.

Research objective-6: A critical aspect of the study is the comparison between domestic and neighboring political instability. The analysis reveals that domestic instability generally has a more significant and direct negative impact on economic growth than neighboring instability, since it disrupts internal governance, economic policies, and societal stability. Domestic turmoil weakens investor confidence, impedes government effectiveness, and reduces productive capacity, leading to significant economic challenges. Neighboring instability, on the other hand, exerts its influence more indirectly through spillover effects, such as reduced trade, security concerns, or investment flows. However, the effects of neighboring instability can approach or even rival those of domestic instability, particularly when external disruptions trigger domestic responses, such as increased security spending or social unrest, in places where high regional integration exists. The connection between the two forms of instability is also significant, such that domestic instability can exacerbate the economic consequences of neighboring instability by weakening a country's resilience to external shocks. These findings emphasize the complementary nature of domestic and external political environments in shaping the economic performance of countries.

Research considerations-1: The study endeavors to identify several key transmission channels through which neighboring political instability affects economic growth, thereby providing a detailed understanding of the mechanisms at play. Investment is a primary path, with political instability significantly reducing both domestic and foreign capital formation due to heightened uncertainty. This effect is particularly strong in investment-intensive economies where disruptions in capital flows have substantial

impacts. Human capital presents a mixed effect, such that while some economies seem to benefit from skilled migration from unstable neighbors, others face disruptions in education and labor productivity that outweigh potential gains from skilled migration. Government expenditure often shifts toward security and defense in response to neighboring instability, thus diverting resources away from productive investments and worsening the negative economic impact. The analysis of trade shows that it plays a secondary role, and its significance depends on regional trade integration. Political instability disrupts cross-border trade by shrinking markets or increasing costs in highly integrated economies, while this channel is less prominent in less integrated economies. These channels highlight the multifaceted nature of instability's impact, with investment and government expenditure as critical channels.

Research considerations-2: The robustness of the findings was tested through various methodological approaches, including alternative measures of neighboring political instability, different instrumental variables with different weighting methods, and dynamic econometric models. These tests addressed potential biases arising from measurement approaches, endogeneity concerns, data sources, and model specifications. The negative impact of neighboring political instability remains consistent across these specifications, thereby strengthening the reliability of the results. Variations in effect size across models reflect the sensitivity of the findings to methodological choices and data availability, but the overall relationship holds.

The first robustness check involves recalculating the measure of neighboring political instability using a cumulative trade-weighted approach. This method addresses long-term economic links through trade by assigning fixed weights based on cumulative trade volumes to reach a more long-term representation of cross-border economic relationships compared to the baseline approach. The results demonstrated a negative impact on economic growth, with coefficients often larger than those in the baseline models. In order to address potential endogeneity in the primary measure of neighboring political instability, an alternative instrumental variable approach was employed by using the political instability of neighbors' neighbors. This second-order instability measure was selected for its expected exogeneity because it is less likely to be directly correlated with the host country's economic growth while still influencing the instability of their

immediate neighbors. The results confirmed the negative effect on economic growth, though the significance and magnitude varied across model specifications. Another robustness test involved substituting the original instability measure with an alternative index derived from a multidimensional dataset focused on state fragility, with the exclusion of economic indicators to minimize multicollinearity risks. This alternative measure revealed negative and significant impacts on economic growth across various model specifications. Although the coefficients were smaller due to differences in scale, the findings are similar to the original results, which affirms the robustness of the baseline conclusion. The reduced observation stemming from the alternative dataset's more limited temporal coverage suggests constraints in explanatory power, but the consistency of the negative effect enhances confidence in the main findings. Finally, the robustness of the results was tested using a dynamic econometric approach, which is a two-step system generalized method of moments (GMM) estimator. This method addressed potential biases from dynamic panel data like autocorrelation and endogeneity by incorporating lagged dependent variables and instruments. The findings confirmed a negative and significant impact of neighboring political instability on economic growth, though with smaller coefficients compared to the static models. Diagnostic tests of GMM of no evidence of second-order autocorrelation and appropriate instrument exogeneity supported the model's validity. Overall, these robustness checks demonstrate that the negative impact of neighboring political instability on economic growth is consistent across various measurement methods, instrumental choices, data sources, and estimation techniques. These tests not only validate the consistency of empirical findings but also emphasize the complicated linkage between external political circumstances with economic performance.

The findings align with the institutional approach to economic growth, emphasizing political stability as a fundamental determinant of economic performance. In conclusion, this study demonstrates that neighboring political instability has a significant, context-dependent impact on economic growth, mediated through investment, human capital, and government expenditure. The effects vary by region, income level, regime type, and ethnic fragmentation.

Theoretical Contributions

This study aims to make contributions to the fields of economic growth and institutional economics by integrating the regional dimension of political instability into existing theoretical frameworks. Neoclassical growth models emphasize capital, labor, and exogenous technological progress, while endogenous growth theories highlight human capital and knowledge spillovers. However, these models often overlook non-economic factors like political instability and geography. The institutional approach provides a foundation for this study by framing institutions as fundamental causes of growth. This dissertation extends this approach by demonstrating that neighboring political instability affects domestic institutions and economic performance through spillovers, thus contributing to the institutional economics approach.

The findings challenge the convergence hypothesis central to neoclassical theory. While Solow's model predicts that countries with similar savings and population growth rates will converge to similar income levels, empirical evidence reveals persistent disparities. The significant negative effect of neighboring political instability suggests that regional instability can persist in divergence by disrupting capital accumulation and productivity. These results emphasize the need for growth models to account for external circumstances by moving beyond domestic factors alone. Further, the study shows that the combination of different economic and non-economic factors draws different economic trajectories for countries.

Moreover, the identification of investment as a transmission channel and partially government expenditure and human capital as being interconnected between NPI and economic growth bridges neoclassical and institutional perspectives. While neoclassical models treat capital accumulation as a proximate cause, this study shows that neighboring political instability influences capital through political uncertainty, consistent with the emphasis on fundamental causes of the institutional approach. The mixed role of human capital further complicates the human capital inclusion in growth theories, thereby suggesting that external stresses like neighboring political instability can both enhance and undermine human capital's growth effects. The dissertation offers a multidimensional framework for understanding cross-country income differences by situating neighboring political instability within these debates.

Practical Implications

The findings have significant policy implications, particularly for regions and countries vulnerable to neighboring political instability. In regions where neighboring political instability has a pronounced negative effect, policymakers should follow strategies to alleviate investment uncertainty. This could include incentives for domestic and foreign investment, such as tax breaks or guarantees against regional risks, to counteract the risk associated with fixed capital formation. Additionally, the negative impact of government expenditure suggests a need to reallocate resources from security-oriented spending to productive investments, such as infrastructure or education. Regional cooperation, through institutions like the European Union, could further stabilize economic ties and reduce the spillover effects of instability.

In regions where the positive neighboring political instability effect through human capital presents opportunities for diverse economic policies. Governments could benefit from skilled migration from unstable neighbors by facilitating qualitative immigration processes and integrating migrants into high-skill sectors. Similarly, trade policies that take advantage of rerouted trade flows could enhance economic resilience against destabilizing processes. These strategies require careful planning to ensure that short-term gains translate into long-term growth.

Conversely, the focus should be on strengthening domestic institutions to provide a counterbalance against regional shocks for countries where neighboring political instability effects are often insignificant. Considering the positive and significant role of human capital across most regions, investments in human capital could enhance resilience. Moreover, establishing international trade agreements could reduce dependence on unstable neighbors.

Limitations of the Study

Despite its contributions, the study has several limitations that should be taken into consideration. First, the measurement of neighboring political instability relies on quantitative indices that may not fully capture the qualitative features of political instability. For instance, the version of neighboring political instability derived from the

Fragile States Index excludes economic sub-indicators to avoid collinearity but has limited coverage, thereby reducing its explanatory power. Similarly, the weighting of the neighboring instability according to fixed cumulative trade may overemphasize long-term economic ties at the expense of short-term determinants. These data constraints bring forth the challenge of quantifying complicated political processes.

Second, the analysis of transmission channels reveals mixed results, particularly for human capital and government expenditure. While investment is confirmed as a key mediator, the positive effect of neighboring political instability on human capital and government expenditure in some contexts suggests unmodeled heterogeneity. Trade openness's weak role may reflect the study's focus on aggregate trade rather than specific trade disruptions, leading to a limitation in its explanatory power.

Third, a key challenge is the reliability of data from countries experiencing major political crises, where incomplete or inaccurate reporting may introduce biases in quantitative analyses. This issue is particularly pronounced in regions that are persistently unstable, potentially affecting the accuracy of the estimated effects. For example, the regional and income-level analyses face challenges in capturing all context-dependent factors. The insignificant neighboring effects in Sub-Saharan Africa and Latin America may stem from data limitations or unmodeled local factors, such as informal economies, underreported data, or dominance of domestic instability.

Fourth, the control variables may themselves be directly influenced by neighboring political instability such that instability can disrupt investment flows, change government spending priorities, or trigger migration, thus complicating the isolation of instability's direct effect. Consequently, the measured impact of political instability on economic growth may be understated, while the true effect is potentially stronger than the empirical results indicate. These limitations imply the challenges of modeling neighboring and domestic political instability and the need for careful interpretation.

Directions for Future Research

The dissertation opens several directions for future research to build upon its findings. Firstly, extending the analysis to include additional transmission channels, such as

military spending or property rights, could provide a more comprehensive understanding of the economic impact of neighboring political instability. These channels that are reviewed in the literature may play significant roles in specific regional contexts, such as the Middle East and North Africa, where security concerns are pronounced. Secondly, qualitative case studies focused on certain examples could complement the quantitative approach. Thirdly, exploring the long-term effects of neighboring political instability could enhance the study's temporal scope. The current analysis focuses on short-term impacts, but persistent instability may have cumulative and deeper effects on growth trajectories. Fourth, future research could employ multi-level models that integrate domestic and neighboring political instability to capture a more holistic model of the impact of the political environment. Fifth, countries can be analyzed according to their destabilizing or stabilizing process, instead of considering their instantaneous instability levels. Finally, alternative instability metrics, such as event-machine learning-derived indices, could improve measurement precision.

In conclusion, this dissertation advances the understanding of neighboring political instability as a determinant of economic growth, offering theoretical insights, empirical evidence, and policy recommendations. By highlighting the role of regional spillovers, it emphasizes the interconnected nature of economies and the need for calculated responses to instability. While limitations exist, the study's robust findings and proposed research directions provide a foundation for future interests in economic development in an increasingly volatile world.

BIBLIOGRAPHY

Abreu, M., de Groot, H. L. F., & Florax, R. J. G. M. (2005). Space and growth: A survey of empirical evidence and methods. *Region et Developpement*, *21*, 13–44. https://doi.org/10.2139/SSRN.631007

Acemoglu, D. (2009). *Introduction to modern economic growth*. Princeton University Press.

Acemoglu, D., Johnson, S., & Robinson, J. (2005). Institutions as the fundamental cause of long-run growth. In P. Aghion & S. N. Durlauf (Eds.), *Handbook of Economic Growth, Volume 1A* (pp. 386–472). North-Holland.

Acemoglu, D., Johnson, S., & Robinson, J. A. (2001). The colonial origins of comparative development: An empirical investigation. *American Economic Review*, *91*(5), 1369–1401.

Acemoglu, D., Johnson, S., & Robinson, J. A. (2002). Reversal of fortune: Geography and institutions in the making of the modern world income distribution. *The Quarterly Journal of Economics*, *117*(4), 1231–1294.

Acemoglu, D., Naidu, S., Restrepo, P., & Robinson, J. A. (2019). Democracy does cause growth. *Journal of Political Economy*, *127*(1), 47–100.

Acemoglu, D., & Robinson, J. A. (2012). *Why nations fail: The origins of power, prosperity and poverty*. Crown Publishers.

Ades, A., & Chua, H. B. (1997). Thy neighbor's curse: Regional instability and economic growth. *Journal of Economic Growth*, *2*(3), 279–304. https://doi.org/10.1023/A:1009782809329/METRICS

Ades, A. F., & Glaeser, E. L. (1999). Evidence on growth, increasing returns, and the extent of the market. *The Quarterly Journal of Economics*, *114*(3), 1025–1045.

Aghion, P., & Howitt, P. (1992). A model of growth through creative destruction. *Econometrica*, *60*(2), 323–351.

Aghion, P., & Howitt, P. (2009). *The economics of growth*. The MIT Press.

Ahmad, M., & Hall, S. G. (2017). Economic growth and convergence: Do institutional proximity and spillovers matter? *Journal of Policy Modeling*, *39*, 1065–1085. https://doi.org/10.1016/j.jpolmod.2017.07.001

Aisen, A., & Veiga, F. J. (2008). Political instability and inflation volatility. *Public Choice*, *135*(3/4), 207–223. https://doi.org/10.1007/slll27-007-9254-x

Aisen, A., & Veiga, F. J. (2013). How does political instability affect economic growth? *European Journal of Political Economy*, *29*, 151–167. https://doi.org/https://doi.org/10.1016/j.ejpoleco.2012.11.001

Ake, C. (1975). A definition of political stability. *Comparative Politics*, *7*(2), 271–283.

Al, İ., & Belke, M. (2018). Politik istikrarsızlık ile ekonomik büyüme arasındaki ilişki: MENA ülkeleri için panel nedensellik analizi. *Uluslararası İktisadi ve İdari İncelemeler Dergisi*, *Prof. Dr. Harun Terzi Özel Sayısı*, 271–286. https://doi.org/10.18092/ulikidince.452539

Alesina, A., Özler, S., Roubini, N., & Swagel, P. (1996). Political instability and economic growth. *Journal of Economic Growth*, *1*(2), 189–211. https://doi.org/10.1007/BF00138862

Alesina, A., & Perotti, R. (1996). Income distribution, political instability, and investment. *European Economic Review*, *40*(6), 1203–1228. https://doi.org/10.1016/0014-2921(95)00030-5

Alesina, A., & Rodrik, D. (1994a). Distributive politics and economic growth. *Quarterly Journal of Economics*, *109*(2), 465–490. https://doi.org/10.2307/2118470

Alesina, A., & Rodrik, D. (1994b). Distributive Politics and Economic Growth. *The Quarterly Journal of Economics*, *109*(2), 465–490.

Alesina, A., & Tabellini, G. (1989). External debt, capital flight and political risk. *Journal of International Economics*, *27*(3–4), 199–220.

Alfaro, L., Kalemli-Ozcan, S., Volosovych, V., Acemoglu, D., Di Tella, R., Dyck, A., Johnson, S., Klein, M., Lucas, R., Rotemberg, J., Sorensen, B., & Sturzenegger, F. (2003). *Why doesn't capital flow from rich to poor countries? An empirical investigation*.

Altındağ, O., Bakış, O., & Rozo, S. V. (2020). Blessing or burden? Impacts of refugees on businesses and the informal economy. *Journal of Development Economics*, *146*, 102490. https://doi.org/10.1016/J.JDEVECO.2020.102490

Annett, A. (2000). *Social fractionalisation, political instability, and the size of government* (82; IMF Staff Papers).

Arayssi, M., & Fakih, A. (2017). Finance–growth nexus in a changing political region: How important was the Arab Spring? *Economic Analysis and Policy*, *55*, 106–123. https://doi.org/10.1016/j.eap.2017.05.001

Arrow, K. J. (1962). The economic implications of learning by doing. *The Review of Economic Studies*, *29*(3), 155–173. https://doi.org/10.2307/2295952

Asteriou, D., & Price, S. (2001). Political instability and economic growth: UK time series evidence. *Scottish Journal of Political Economy*, *48*(4), 383–399. https://doi.org/10.1111/1467-9485.00205

Audretsch, D. B., & Feldman, M. P. (1996). *R&D spillovers and the geography of innovation and production*. *86*(3), 630–640.

Auvinen, J. (1997). Political conflict in less developed countries 1981-89. *Journal of Peace Research*, *34*(2), 177–195. http://www.jstor.org/stable/425107

Banks, A. S., & Wilson, K. A. (2024). Cross-national time-series data (CNTS). In *Databanks International*.

Baran, P. A. (1957). *The Political economy of growth*. Monthly Review Press.

Bardhan, P. (1990). Symposium on the state and economic development. *The Journal of Economic Perspectives*, *4*(3), 3–7.

Barro, R. J. (1991). Economic growth in a cross section of countries. *The Quarterly Journal of Economics*, *106*(2), 407–443. https://www.jstor.org/stable/2937943

Barro, R. J. (1996). Determinants of economic growth: A cross-country empirical study. In *NBER Working Papers* (5698). http://repository.upi.edu/1360/1/s_d5451_0604180_chapter1.pdf

Barro, R. J. ., & Sala-i-Martin, Xavier. (2004). *Economic growth*. MIT Press.

Barro, R. J., & Lee, J.-W. (1994). Sources of economic growth. *Carnegie-Rochester Conference Series on Public Policy*, *40*(C), 1–46. https://doi.org/10.1016/0167-2231(94)90002-7

Barro, R. J., & Sala-I-Martin, X. (1992). Convergence. *Journal of Political Economy*, 223–251. https://doi.org/10.1086/261816

Barro, R. J., & Wolf, H. C. (1989). *Data appendix for economic growth in a cross-section of countries* (Unpublished).

Baum, C. F. (2001). Residual diagnostics for cross-section time series regression models. *The Stata Journal*, *1*(1), 101–104.

Baumol, W. J. (1986). *Productivity growth, convergence, and welfare: What the long-run data show*. *76*(5), 1072–1085.

Baxter, M., & Kouparitsas, M. A. (2005). Determinants of business cycle comovement: a robust analysis. *Journal of Monetary Economics*, *52*(1), 113–157. https://doi.org/10.1016/J.JMONECO.2004.08.002

Bayoumi, T., & Eichengreen, B. (1994). One money or many? Analyzing the prospects for monetary unification in various parts of the world. In *PRINCETON STUDIES IN INTERNATIONAL FINANCE* (76; Princeton Studies in International Finance, Issue 76).

Benhabib, J., & Rustichini, A. (1996). Social conflict and growth. *Journal of Economic Growth*, *1*(1), 125–142. https://doi.org/10.1007/BF00163345/METRICS

Benhabib, J., & Spiegel, M. (1992). *The role of human capital and political instability in economic development*.

Benhabib, J., & Spiegel, M. M. (1994). The role of human capital in economic development evidence from aggregate cross-country data. *Journal of Monetary Economics*, *34*(2), 143–173. https://doi.org/https://doi.org/10.1016/0304-3932(94)90047-7

Benitez-Rueda, M. (2023). *The productivity effects of forced migration: Evidence from Venezuelan migrants in Colombia*. https://doi.org/10.18235/0005336

Bennett, P. D., & Green, R. T. (1972). Political instability as a determinant of direct foreign investment in marketing. *Journal of Marketing Research*, *9*(2), 182. https://doi.org/10.2307/3149952

Bernal-Verdugo, L. E., Furceri, D., & Guillaume, D. M. (2013). *The dynamic effect of social and political instability on output: The role of reforms* (13/91; IMF Working Paper). https://papers.ssrn.com/abstract=2263603

Berthélemy, J.-C., Kauffmann, C., Renard, L., & Wegner, L. (2000). *Political instability, political regimes and economic performance in African countries*.

Blanchard, O. J. (1985). Debt, deficits, and finite horizons. *Journal of Political Economy*, *93*(2), 223–247. https://www.jstor.org/stable/1832175

Blanco, L., & Grier, R. (2009). Long live democracy: The determinants of political instability in Latin America. *The Journal of Development Studies*, *45*(1), 76–95. https://doi.org/10.1080/00220380802264788

Blomberg, S. B. (1996). Growth, political instability and the defence burden. *Economica*, *63*(252), 649–672. https://doi.org/10.2307/2555001

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, *87*(1), 115–143. https://doi.org/10.1016/S0304-4076(98)00009-8

Bolt, J., & Van Zanden, J. L. (2024). *Maddison project database 2023* (V1 ed.). DataverseNL. https://doi.org/doi/10.34894/INZBF2

Bosker, M., & Garretsen, H. (2009). Economic development and the geography of institutions. *Journal of Economic Geography*, *9*(3), 295–328. https://doi.org/10.1093/jeg/lbn047

Brada, J. C., Kutan, A. M., & Yigit, T. M. (2006). The effects of transition and political instability on foreign direct investment inflows. *Economics of Transition*, *14*(4), 649–680. https://doi.org/10.1111/J.1468-0351.2006.00272.X

Brunetti, A. (1997). Political variables in cross-country growth analysis. *Journal of Economic Surveys*, *11*(2), 163–190. https://doi.org/10.1111/1467-6419.00029

Brunetti, Y., & Weder, B. (1995). Political sources of growth: A critical note on measurement. *Public Choice*, *82*(1–2), 125–134. https://doi.org/10.1007/BF01047733

Bruno, M., & Easterly, W. (1998). Inflation crises and long-run growth. *Journal of Monetary Economics*, *41*(1), 3–26. https://doi.org/10.1016/S0304-3932(97)00063-9

Bucci, A., Eraydın, L., & Müller, M. (2019). Dilution effects, population growth and economic growth under human capital accumulation and endogenous technological change. *Journal of Macroeconomics*, *62*, 103050. https://doi.org/10.1016/J.JMACRO.2018.08.003

Busse, M., & Hefeker, C. (2007). Political risk, institutions and foreign direct investment. *European Journal of Political Economy*, *23*(2), 397–415. https://doi.org/10.1016/J.EJPOLECO.2006.02.003

Bussire, M., & Mulder, C. (2000). Political instability and economic vulnerability. *International Journal of Finance and Economics*, *5*(4), 309–330. https://doi.org/10.1002/1099-1158(200010)5:4<309::AID-IJFE136>3.0.CO;2-I

Butkiewicz, J. L., & Yanikkaya, H. (2005). The impact of sociopolitical instability on economic growth: Analysis and implications. *Journal of Policy Modeling*, *27*(5), 629–645. https://doi.org/10.1016/J.JPOLMOD.2005.04.001

Çakır, S., Erbay, E., & Kırdar, M. G. (2023). Syrian refugees and human capital accumulation of working-age native children in Turkey. *Journal of Human Capital*, *17*(4), 557–592.

https://doi.org/10.1086/726628;WEBSITE:WEBSITE:UCHICAGO;ISSUE:ISSUE:10.1086/JHC.2023.17.ISSUE-4

Cameron, A. C., & Miller, D. L. (2015). A practitioner's guide to cluster-robust inference. *Journal of Human Resources*, *50*(2), 317–372.

Campos, N. F., & Karanasos, M. G. (2008). Growth, volatility and political instability: Non-linear time-series evidence for Argentina, 1896–2000. *Economics Letters*, *100*(1), 135–137. https://doi.org/10.1016/J.ECONLET.2007.12.013

Campos, N. F., & Nugent, J. B. (2002). Who is afraid of political instability? *Journal of Development Economics*, *67*(1), 157–172. https://doi.org/10.1016/S0304-3878(01)00181-X

Campos, N. F., Nugent, J. B., & Robinson, J. A. (1999). *Can political instability be good for growth? The case of the Middle East and North Africa*.

Carmignani, F. (1999). *Measures of political instability in multiparty governments: A new data set with econometric applications* (9916; University of Glasgow Discussion Papers).

Carmignani, F. (2001). *Theory and evidence on the political economy of growth* (Working Paper Series). http://dipeco.economia.unimib.it

Carmignani, F. (2003). Political instability, uncertainty and economics. *Journal of Economic Surveys*, *17*(1), 1–54. https://doi.org/10.1111/1467-6419.00187

Caselli, F., Esquivel, G., & Lefort, F. (1996). Reopening the convergence debate: A new look at cross-country growth empirics. *Journal of Economic Growth*, *1*(3), 363–389. https://doi.org/10.1007/BF00141044/METRICS

Cebula, R. J. (2011). Economic growth, ten forms of economic freedom, and political stability: An empirical study using panel data, 2003-2007. *Journal of Private Enterprise*, *26*(2), 61–81. https://www.researchgate.net/publication/359953286

Chang, H.-J. (2002). *Kicking away the ladder* (First). Anthem Press.

Chau, F., Deesomsak, R., & Wang, J. (2014). Political uncertainty and stock market volatility in the Middle East and North African (MENA) countries. *Journal of International Financial Markets, Institutions and Money*, *28*(1), 1–19. https://doi.org/10.1016/j.intfin.2013.10.008

Chen, B., & Feng, Y. (1996a). Some political determinants of economic growth: Theory and empirical implications. *European Journal of Political Economy*, *12*(4), 609–627. https://doi.org/10.1016/S0176-2680(96)00019-5

Chen, B., & Feng, Y. (1996b). Some Political determinants of economic growth: Theory and empirical implications. *European Journal of Political Economy*, *12*(4), 609–627. https://doi.org/10.1016/S0176-2680(96)00019-5

Collier, P., & Hoeffler, A. (2004). Greed and grievance in civil war. *Papers*, *56*(4), 563–595. https://doi.org/10.1093/oep/gpf064

Coppedge, M., Gerring, J., Knutsen, C. H., Lindberg, S. I., Teorell, J., Altman, D., Angiolillo, F., Bernhard, M., Cornell, A., Fish, M. S., Fox, L., Gastaldi, L., Gjerlöw, H., Glynn, A., Ana Good God, Sandra Grahn, Allen Hicken, Katrin Kinzelbach, Joshua Krusell, … Daniel Ziblatt. (2025). *V-Dem country-year dataset v15*.

Coppedge, M., Gerring, J., Knutsen, C. H., Lindberg, S. I., Teorell, J., Marquardt, K. L., Medzihorsky, J., Pemstein, D., Pernes, J., R¨omer, J. von, Stepanova, N., Tzelgov, E., Wang, Y., & Wilson, S. (2019). *V-Dem methodology v9*.

Craig, J., Charles, J., Taylor, L., Abbott, M., Maher, T. V, Peterson, L., Jenkins, J. C., Lewis Taylor, C., & Peterson, L. 2012. (2019). *The world handbook of political indicators IV: An introduction and codebook*. https://sociology.osu.edu/

Cukierman, A., Edwards, S., & Tabellini, G. (1992). Seigniorage and political instability. *The American Economic Review*, *82*(3), 537–555.

Darby, J., Li, C. W., & Muscatelli, V. A. (2004). Political uncertainty, public expenditure and growth. *European Journal of Political Economy*, *20*(1), 153–179. https://doi.org/10.1016/J.EJPOLECO.2003.01.001

Davies, S., Engström, G., Pettersson, T., & Öberg, M. (2024). Organized violence 1989–2023, and the prevalence of organized crime groups. *Journal of Peace Research*, *61*(4), 673–693. https://doi.org/10.1177/00223433241262912/ASSET/07CCCDD7-EAF9-47AC-AE01-A3F8B0C7B51D/ASSETS/IMAGES/LARGE/10.1177_00223433241262912-FIG7.JPG

De Haan, J., & Siermann, C. L. J. (1995). New evidence on the relationship between democracy and economic growth. *Public Choice*, *86*, 175–198.

De Haan, J., & Siermann, C. L. J. (1996). Central bank independence, inflation and political instability in developing countries. *The Journal of Policy Reform*, *1*(2), 135–147. https://doi.org/10.1080/13841289608523360

De Haan, J., Sturm, J.-E., & Beekhuis, G. (1999). *The weak government thesis: Some new evidence*. *101*(3), 163–176. https://www.jstor.org/stable/30026120

De Long, J. B., & Summers, L. H. (1991). Equipment investment and economic growth. *The Quarterly Journal of Economics*, *106*(2), 445–502. https://www.jstor.org/stable/2937944

Deaton, A., & Miller, R. (1995). The price of power: From commodity prices to politics. In *International Commodity Prices, Macroeconomic Performance, and Politics in Sub-Saharan Africa* (pp. 67–85). International Finance Section, Department of Economics, Princeton University.

Deloitte. (2024). *Analysis of the impact of refugees from Ukraine on the economy of Poland*.

Devarajan, S., Swaroop, V., & Zou, H. F. (1996). The composition of public expenditure and economic growth. *Journal of Monetary Economics*, *37*(2), 313–344. https://doi.org/10.1016/S0304-3932(96)90039-2

Devereux, M. B., & Wen, J. F. (1998). Political instability, capital taxation, and growth. *European Economic Review*, *42*(9), 1635–1651. https://doi.org/10.1016/S0014-2921(97)00100-1

Diamond, L. J. (1990). Three paradoxes of democracy. *Journal of Democracy*, *1*(3), 48–60. https://doi.org/10.1353/jod.1990.0047

Diamond, P. A. (1965). National debt in a neoclassical growth model. *The American Economic Review*, *55*(5), 1126–1150.

Dollar, D., & Kraay, A. (2003). Institutions, trade, and growth. *Journal of Monetary Economics*, *50*(1), 133–162. https://doi.org/10.1016/S0304-3932(02)00206-4

Dollar, D., Kraay, A., & Clinton, B. (2002). Growth is good for the poor. *Journal of Economic Growth*, *7*(3), 195–225.

Domar, E. D. (1946). Capital expansion, rate of growth, and employment. *Econometrica*, *14*(2), 137. https://doi.org/10.2307/1905364

Doucouliagos, H., & Ulubaşoğlu, M. A. (2008). Democracy and economic growth: A meta-analysis. *American Journal of Political Science*, *52*(1), 61–83. https://doi.org/10.1111/j.1540-5907.2007.00299.x

Drazanova, L. (2019). *Historical index of ethnic fractionalisation dataset*. European University Institute, Robert Schuman Centre for Advanced Studies.

Drukker, D. M. (2003). Testing for serial correlation in linear panel-data models. *The Stata Journal*, *3*(2), 168–177. https://doi.org/10.1177/1536867X0300300206

Easterly, W. (1999). Life during growth. *Journal of Economic Growth*, *4*(3), 239–276.

Easterly, W., Kremer, M., Pritchett, L., & Summers, L. H. (1993). Good policy or good luck? Country growth performance and temporary shocks. *Journal of Monetary Economics*, *32*, 459–483. https://papers.ssrn.com/abstract=260539

Easterly, W., & Levine, R. (1997). Africa's growth tragedy: Policies and ethnic divisions. *The Quarterly Journal of Economics*, *112*(4), 1203–1250. https://doi.org/10.1162/003355300555466

Easterly, W., & Levine, R. (1998). Troubles with the neighbours: Africa's problem, Africa's opportunity. *Journal of African Economies*, *7*(1), 120–142. http://jae.oxfordjournals.org/

Eck, K., & Hultman, L. (2007). One-sided violence aganist civilians in war: Insights from new fatality data. *Journal of Peace Research*, *44*(2), 233–246. https://doi.org/10.1177/0022343307075124

Eckstein, H. (1969). Authority relations and governmental performance: A theoretical framework. *Comparative Political Studies*, *2*(3), 269–325.

Elsayed, A. H., & Yarovaya, L. (2019). Financial stress dynamics in the MENA region: Evidence from the Arab Spring. *Journal of International Financial Markets, Institutions and Money*, *62*, 20–34. https://doi.org/10.1016/j.intfin.2019.05.004

Epstein, L. G., & Hynes, J. A. (1983). The rate of time preference and dynamic economic analysis. *Https://Doi.Org/10.1086/261168*, *91*(4), 611–635. https://doi.org/10.1086/261168

Erdem, E., & İlgün, F. (2017). Mali disiplin üzerinde politik faktörlerin etkisi: az gelişmiş ve gelişmekte olan ülkelere yönelik uygulamalı bir analiz. *İstanbul Üniversitesi İktisat Fakültesi Mecmuası*, *67*(1), 1–23. https://doi.org/10.26560/IUIFM.331641

Eurostat. (2025). *Intra-EU trade in goods - main features*. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Intra-EU_trade_in_goods_-_main_features

Fedderke, J., & Klitgaard, R. (2006). Economic growth and social indicators: An exploratory analysis. *Journal of Comparative Policy Analysis*, *8*(3), 283–303. https://doi.org/10.1080/13876980600858598

Fedderke, J., & President, R. K. (2006). Economic growth and social indicators: An exploratory analysis. *Journal of Comparative Policy Analysis*, *8*(3), 283–303. https://doi.org/10.1080/13876980600858598

Feenstra, R. C., Inklaar, R., & Timmer, M. P. (2015). The next generation of the Penn World Table. *American Economic Review*, *105*(10), 3150–3182. https://doi.org/10.1257/aer.20130954

Feierabend, I. K., & Feierabend, R. L. (1966). Aggressive behaviors within polities, 1948-1962: A cross-national study. *The Journal of Conflict Resolution*, *10*(3), 249–271. http://www.jstor.org/stable/173000

Feng, Y. (1997). Democracy, political stability and economic growth. *British Journal of Political Science*, *27*(3), 391–418. http://www.jstor.org/stable/194123

Feng, Y. (2003). *Democracy, governance, and economic performance*. The MIT Press. https://doi.org/10.7551/mitpress/2329.001.0001

Fielding, D. (2003). Counting the cost of the Intifada: Consumption, saving and political instability in Israel. *Public Choice*, *116*(3–4), 297–312. https://doi.org/10.1023/A:1024831518541/METRICS

Fischer, M. M., Bartkowska, M., Riedl, A., Sardadvar, S., & Kunnert, A. (2009). The impact of human capital on regional labor productivity in Europe. *Letters in Spatial and Resource Sciences*, *2*(2–3), 97–108. https://doi.org/10.1007/S12076-009-0027-7/METRICS

Fischer, S. (1993). The role of macroeconomic factors in growth. *Journal of Monetary Economics*, *32*(3), 485–512. https://doi.org/10.1016/0304-3932(93)90027-D

Fosu, A. K. (1992). Political instability and economic growth: evidence from Sub-Saharan Africa. *Economic Development and Cultural Change*, *40*(4), 829–841. https://about.jstor.org/terms

Fosu, A. K. (2001). Political instability and economic growth in developing economies: some specification empirics. *Economics Letters*, *70*(2), 289–294. https://doi.org/10.1016/S0165-1765(00)00357-8

Fosu, A. K. (2003). Political instability and export performance in Sub-Saharan Africa. *Journal of Development Studies*, *39*(4), 68–83. https://doi.org/10.1080/713869426

Frankel, J. A., & Romer, D. (1999). Does trade cause growth? *The American Economic Review*, *89*(3), 379–399.

Frankel, J. A., & Rose, A. K. (1998). The endogeneity of the optimum currency area criteria. *The Economic Journal*, *108*(449), 1009–1025. https://www.jstor.org/stable/2565665

Gallup, J. L., Sachs, J. D., & Mellinger, A. D. (1999). Geography and economic development. *International Regional Science Review*, *22*(2), 179–232.

Gasiorowski, M. J. (1986). Economic interdependence and international conflict: Some cross-national evidence. *International Studies Quarterly*, *30*(1), 23–38.

Gates, S., Hegre, H., Jones, M. P., & Strand, H. (2006). Institutional inconsistency and political instability: Polity duration, 1800-2000. *American Journal of Political Science*, *50*(4), 893–908. https://doi.org/10.1111/j.1540-5907.2006.00222.x

Gaulier, G., & Zignago, S. (2010). *BACI: International trade database at the product-level. The 1994-2007 version* (2010–23). https://www.cepii.fr/CEPII/fr/publications/wp/abstract.asp?NoDoc=2726

Glomm, G., & Ravikumar, B. (1997). Productive government expenditures and long-run growth. *Journal of Economic Dynamics and Control*, *21*(1), 183–204. https://doi.org/10.1016/0165-1889(95)00929-9

Goldsmith, A. A. (1987). Does political stability hinder economic development? Mancur Olson's theory and the Third World. *Comparative Politics*, *19*(4), 471–480.

Goldstone, J. A., Gurr, T. R., Marshall, M. G., & Ulfelder, J. (2004). It's all about state structure: New findings on revolutionary origins from global data. *Homo Oeconomicus*, *21*(3), 429–455. www.accedoverlag.de

Gowa, J., & Mansfield, E. D. (1993). Power politics and international trade. *The American Political Science Review*, *87*(2), 408–420.

Grechyna, D. (2016). Political frictions and public policy outcomes. *Journal of Comparative Economics*, *44*(3), 484–495. https://doi.org/10.1016/J.JCE.2016.06.001

Greene, W. H. . (2012). *Econometric analysis*. Pearson.

Grier, K. B., & Tullock, G. (1989). An empirical analysis of cross-national economic growth, 1951–1980. *Journal of Monetary Economics*, *24*(2), 259–276. https://doi.org/10.1016/0304-3932(89)90006-8

Grossman, G. M., & Helpman, E. (1991). *Innovation and growth in the global economy*. The MIT Press.

Guillaumont, P., Guillaumont Jeanneney, S., & Brun, J.-F. (1999). How instability lowers African growth. *Journal of African Economies*, *8*, 87–107.

Gupta, D. K. (1990). *The economics of political violence: The effect of political instability on economic growth*. Praeger.

Gupta, D. K., Madhavan, M. C., & Blee, A. (1998a). Democracy, economic growth and political instability: An integrated perspective. *The Journal of Socio-Economics*, *27*(5), 587–611. https://doi.org/10.1016/S1053-5357(99)80113-9

Gupta, D. K., Madhavan, M. C., & Blee, A. (1998b). Democracy, Economic growth and political instability: An integrated perspective. *The Journal of Socio-Economics*, *27*(5), 587–611. https://doi.org/10.1016/S1053-5357(99)80113-9

Gupta, S., Clements, B., Bhattacharya, R., & Chakravarti, S. (2002). *Fiscal consequences of armed conflict and terrorism in low- and middle-income countries* (WP/02/142; IMF Working Paper).

Gurgul, H., & Lach, Ł. (2013). Political instability and economic growth: Evidence from two decades of transition in CEE. *Communist and Post-Communist Studies*, *46*(2), 189–202. https://doi.org/10.1016/J.POSTCOMSTUD.2013.03.008

Gurr, T. R. (1974). Persistence and change in political systems, 1800-1971. *The American Political Science Review*, *68*(4), 1482–1505. https://about.jstor.org/terms

Gyimah-Brempong, K., & De Camacho, S. M. (1998). Political instability, human capital, and economic growth in Latin America. *The Journal of Developing Areas*, *32*(4), 449–466.

Gyimah-Brempong, K., & Traynor, T. L. (1996). Political instability and savings in less developed countries: Evidence from Sub-Saharan Africa. *The Journal of Development Studies*, *32*(5), 695–714. https://doi.org/10.1080/00220389608422436

Gyimah-Brempong, K., & Traynor, T. L. (1999). Political instability, investment and economic growth in Sub-Saharan Africa. *Journal of African Economies*, *8*(1), 52–86.

Ha, J., Kose, M. A., & Ohnsorge, F. (2023). One-stop source: A global database of inflation. *Journal of International Money and Finance*, *137*, 102896. https://doi.org/10.1016/J.JIMONFIN.2023.102896

Haan, J. De, & Siermann, C. L. J. (1996). Political instability, freedom, and economic growth: Some further evidence. *Economic Development and Cultural Change*, *44*(2), 339–350. https://www.jstor.org/stable/1154407

Hagemann, H. (2009). Solow's 1956 contribution in the context of the Harrod-Domar model. *History of Political Economy*, *41*(Suppl_1), 67–87. https://doi.org/10.1215/00182702-2009-017

Haggard, S. (1990). *Pathways from the periphery: The politics of growth in the newly industrializing countries*. Cornell University Press.

Hall, R. E., & Jones, C. I. (1999). Why do some countries produce so much more output per worker than others? *The Quarterly Journal of Economics*, *114*(1), 83–116. https://doi.org/10.1162/003355399555954

Harberger, A. C. (1964). The measurement of waste. *The American Economic Review*, *54*(3), 58–76.

Harrod, R. F. (1939). An essay in dynamic theory. *The Economic Journal*, *49*(193), 14–33.

Hibbs, D. A. (1973). Mass political violence: A cross-national causal analysis. In *Contemporary Sociology* (Issue 1). John Wiley & Sons. https://doi.org/10.2307/2065938

Huntington, S. P. . (1968). *Political order in changing societies*. Yale University Press.

Hurwitz, L. (1973). Contemporary approaches to political stability. *Comparative Politics*, *5*(3), 449–463.

Ianchovichina, E., & Ivanic, M. (2016). Economic effects of the Syrian War and the spread of the Islamic State on the Levant. *World Economy*, *39*(10), 1584–1627. https://doi.org/10.1111/TWEC.12400

International Monetary Fund. (2024a). *International financial statistics*. https://data.imf.org/?sk=4c514d48-b6ba-49ed-8ab9-52b0c1a0179b

International Monetary Fund. (2024b). *International trade in goods (by partner country)*. https://data.imf.org/Datasets/IMTS

International Monetary Fund. (2025). *International trade in goods (by partner country)*. International Monetary Fund

Islam, N. (1995). Growth Empirics: A panel data approach. *The Quarterly Journal of Economics*, *110*(4), 1127–1170. https://about.jstor.org/terms

Jones, C. I., & Vollrath, D. (2013). *Introduction to economic growth* (3th ed.). W. W. Norton & Company.

Jong-A-Pin, R. (2009). On the measurement of political instability and its impact on economic growth. *European Journal of Political Economy*, *25*(1), 15–29. https://doi.org/10.1016/j.ejpoleco.2008.09.010

Jonston, J., & Dinardo, J. (1997). *Econometric methods* (Fourth Edition). McGraw-Hill.

Kaldor, N. (1961). Capital accumulation and economic growth. *The Theory of Capital*, 177–222. https://doi.org/10.1007/978-1-349-08452-4_10

Kaufmann, D., & Kraay, A. (2002). Growth without governance. *Economia*, *3*(1), 169–229. http://econ.worldbank.org.

Kaufmann, D., & Kraay, A. (2024). *The Worldwide governance indicators: Methodology and 2024 update* (WPS10952; Policy Research Working Paper). www.govindicators.org.

Kelejian, H. H., Murrell, P., & Shepotylo, O. (2013). Spatial spillovers in the development of institutions. *Journal of Development Economics*, *101*(1), 297–315. https://doi.org/10.1016/J.JDEVECO.2012.12.003

Kelley, A. C., & Schmidt, R. M. (1995). Aggregate population and economic growth correlations: The role of the components of demographic change. *Demography*, *32*(4), 543–555. https://doi.org/10.2307/2061674/METRICS

Klomp, J., & de Haan, J. (2009). Political institutions and economic volatility. *European Journal of Political Economy*, *25*(3), 311–326. https://doi.org/10.1016/J.EJPOLECO.2009.02.006

Knack, S., & Keefer, P. (1995). Institutions and economic performance: Cross-country tests using alternative institutional measures. *Economics & Politics*, *7*(3), 207–227. https://doi.org/10.1111/J.1468-0343.1995.TB00111.X

Kobrin, S. J. (1976). The environmental determinants of foreign direct manufacturing investment: An ex post empirical analysis. *Journal of International Business Studies*, *7*(2), 29–42. http://www.jstor.org/stable/154544

Koopmans, T. C. (1963). *On the concept of optimal economic growth* (163; Cowles Foundation Discussion Paper). https://elischolar.library.yale.edu/cowles-discussion-paper-series/392

Kormendi, R. C., & Meguire, P. G. (1985). Macroeconomic determinants of growth: Cross-country evidence. *Journal of Monetary Economics*, *16*(2), 141–163. https://doi.org/10.1016/0304-3932(85)90027-3

Krugman, P. (1999). The role of geography in development. *International Regional Science Review*, *22*(2), 142–161.

Kuznets, S. (1973). Modern economic growth: Findings and reflections. *The American Economic Review*, *63*(3), 247–258.

Leamer, E. E. (1983). Let's take the con out of econometrics. *The American Economic Review*, *73*(1), 31–43.

Levine, R., & Renelt, D. (1992). A sensitivity analysis of cross-country growth regressions. *The American Economic Review*, *82*(4), 942–963. http://www.jstor.org/stable/2117352

Ley, E., & Steel, M. F. J. (1999). *We have just averaged over two trillion cross-country growth regressions* (99/101; IMF Working Paper). https://www.imf.org/external/pubs/ft/wp/1999/wp99101.pdf

Lipset, S. M. (1959). Some social requisites of democracy: Economic development and political legitimacy. *American Political Science Review*, *53*(1), 69–105.

Londregan, J. B., & Poole, K. T. (1990). Poverty, the coup trap, and the seizure of executive power. *World Politics*, *42*(2), 151–183. https://www.jstor.org/stable/2010462

Lu, X., & White, H. (2014). Robustness checks and robustness tests in applied economics. *Journal of Econometrics*, *178*(PART 1), 194–206. https://doi.org/10.1016/J.JECONOM.2013.08.016

Lubu, G. L., Kalusambo, J. C. M., Kikola, C. T., & Ambroise, J. E. (2023). Infrastructure spending, political instability and economic growth. *IBusiness*, *15*(2), 119–139. https://doi.org/10.4236/IB.2023.152009

Lucas, R. E. (1988). On the mechanics of economic development. *Journal of Monetary Economics*, *22*(1), 3–42.

Mankiw, N. G., Romer, D., & Weil, D. (1992). A contribution to the empirics of economic growth. *Quarterly Journal of Economics*, *107*(May).

Margolis, E. J. (2010). Understanding political stability and instability. *Civil Wars*, *12*(3), 326–345. https://doi.org/10.1080/13698249.2010.509568

Marshall, M. G., Gurr, T. R., & Harff, B. (2019). *Political instability task force: dataset and coding guidelines*.

Mauro, P. (1995). Corruption and growth. *Quarterly Journal of Economics*, *110*(3), 681–712. https://doi.org/10.2307/2946696

Miljkovic, D., & Rimal, A. (2008). The impact of socio-economic factors on political instability: A cross-country analysis. *The Journal of Socio-Economics*, *37*(6), 2454–2463. https://doi.org/10.1016/J.SOCEC.2008.04.007

Moore, W. H., & Shellman, S. M. (2007). Whither will they go? A global dtudy of refugees' destinations, 1965-1995. *International Studies Quarterly*, *51*(4), 811–834. https://about.jstor.org/terms

Moreno, R., & Trehan, B. (1997). Location and the growth of nations. *Journal of Economic Growth*, *2*, 399–418.

Morrison, D. G., & Stevenson, H. M. (1971). Political instability in independent black Africa: More dimensions of conflict behavior within nations. *The Journal of Conflict Resolution*, *15*(3), 347–368.

Murdoch, J. C., & Sandler, T. (2002). Economic growth, civil wars, and spatial spillovers. *The Journal of Conflict Resolution*, *46*(1), 91–110. https://about.jstor.org/terms

Murdoch, J. C., & Sandler, T. (2004). Civil wars and economic growth: Spatial dispersion. *American Journal of Political Science*, *48*(1), 138–151. https://doi.org/10.1111/J.0092-5853.2004.00061.X

Nel, P. (2003). Income inequality, economic growth, and political instability in Sub-Saharan Africa. *Source: The Journal of Modern African Studies*, *41*(4), 611–639. https://about.jstor.org/terms

North, D. C. (1991). Institutions. *The Journal of Economic Perspectives*, *5*(1).

O'Brien, R. M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality and Quantity*, *41*(5), 673–690. https://doi.org/10.1007/S11135-006-9018-6/METRICS

Olson, M. (1982). *The rise and decline of nations: Economic growth, stagflation, and social rigidities*. Yale University Press.

Ozler, S., & Tabellini, G. (1991). *External debt and political instability* (3772; NBER Working Papers). https://doi.org/10.3386/W3772

Paldam, M. (1987). Inflation and political instability in eight Latin American countries 1946-83. *Public Choice*, *52*, 143–168.

Paldam, M. (1998). Does economic growth lead to political stability? In *The Political Dimension of Economic Growth* (pp. 171–190). Palgrave Macmillan. https://doi.org/10.1007/978-1-349-26284-7_9

Perotti, R. (1996). Growth, income distribution, and democracy: What the data say. *Journal of Economic Growth*, *1*(2), 149–187. https://doi.org/10.1007/BF00138861/METRICS

Persson, T., & Tabellini, G. (1994). *Is inequality harmful for growth? 84*(3), 600–621.

Persson, T., & Tabellini, G. (1999). Political economics and macroeconomic policy. In *Handbook of Macroeconomics* (Vols. 1, Part C, Issue PART C, pp. 1397–1482). Elsevier. https://doi.org/10.1016/S1574-0048(99)10035-1

Persson, T., & Tabellini, G. (2009). Democratic capital: The nexus of political and economic change. *American Economic Journal: Macroeconomics*, *1*(2), 88–126. https://doi.org/10.1257/mac

Polachek, S. W., & Sevastianova, D. (2012). Does conflict disrupt growth? Evidence of the relationship between political instability and national economic performance. *The Journal of International Trade & Economic Development*, *21*(3), 361–388. https://doi.org/10.1080/09638191003749783

Posner, R. A. (1997). Equality, wealth, and political stability. *Journal of Law, Economics & Organization*, *13*(2), 344–365.

Przeworski, A. (2004). Democracy and economic development. In E. D. Mansfield & R. Sisson (Eds.), *Democracy, Autonomy and Conflict in Comparative and International Politics* (pp. 300–324). The Ohio State University Press.

Przeworski, A., & Limongi, F. (1993). Political regimes and economic growth. *The Journal of Economic Perspectives*, *7*(3), 51–283.

Qureshi, M. S. (2009). *Trade and thy neighbor's war* (WP/09/283; IMF Working Paper).

Ramirez, M. T. T., & Loboguerrero, A. M. (2002). Spatial dependence and economic growth: Evidence from a panel of countries. *SSRN Electronic Journal*. https://doi.org/10.2139/SSRN.311320

Ramos, R., Suriñach, J., & Artís, M. (2010). Human capital spillovers, productivity and regional convergence in Spain. *Papers in Regional Science*, *89*(2), 435–448. https://doi.org/10.1111/J.1435-5957.2010.00296.X

Rao, V. (1984). Democracy and economic development. *Studies in Comparative International Development*, *19*(4), 67–81. https://doi.org/10.1007/BF02743750/METRICS

Rebelo, S. (1991). Long-run policy analysis and long-run growth. *Journal of Political Economy*, *99*(3), 500–521. http://www.jstor.org/stable/2937740

Rodrik, D., Subramanian, A., & Trebbi, F. (2004). Institutions rule: The primacy of institutions over geography and integration in economic development. *Journal of Economic Growth*, *9*(2), 131–165. https://doi.org/10.1023/B:JOEG.0000031425.72248.85/METRICS

Romer, D. (2012). *Advanced macroeconomics* (4th ed.). McGraw-Hill.

Romer, P. M. (1986). Increasing returns and long-run growth. *Journal of Political Economy*, *94*(5), 1002–1037. https://www.jstor.org/stable/1833190

Romer, P. M. (1990). Endogenous technological change. *Journal of Political Economy*, *98*(5), 71–102. https://about.jstor.org/terms

Romer, P. M. (1994). The origins of endogenous growth. *The Journal of Economic Perspectives*, *8*(1), 3–22.

Roubini, N. (1991). Economic and political determinants of budget deficits in developing countries. *Journal of International Money and Finance*, *10*(SUPPL. 1), 49–72. https://doi.org/10.1016/0261-5606(91)90046-M

Roubini, N., & Sachs, J. (1989). Government spending and budget deficits in the industrial countries. *Economic Policy*, *4*(8), 99–132.

Sachs, J. D., & Warner, A. (1995). Economic reform and the process of global integration. *Brookings Papers on Economic Activity*, *26*(1), 1–118.

Sala-i-Martin, X. X. (1997). *I just ran four million regressions* (6252; NBER Working Paper Series). https://www.nber.org/system/files/working_papers/w6252/w6252.pdf

Sala-I-Martin, X. X. (1997). I just ran two million regressions. *The American Economic Review*, *87*(2), 178–183.

Sanders, D. (1981). *Patterns of political instability*. St. Martin's Press.

Şanlısoy, S., & Kök, R. (2016). Politik istikrarsızlık- ekonomik büyüme ilişkisi: Türkiye örneği (1987–2006). *Dokuz Eylül Üniversitesi İktisadi İdari Bilimler Fakültesi Dergisi*, *25*(1), 101–125.

Sarkees, M., & Wayman, F. (2010). *Resort to war, 1816-2007*. CQ Press. https://doi.org/10.4135/9781608718276

Schneider, F., & Frey, B. S. (1985). Economic and political determinants of foreign direct investment. *World Development*, *13*(2), 161–175.

Screpanti, E., & Zamagni, S. (2005). *An outline of the history of economic thought*. Oxford University Press. https://doi.org/10.1093/0199279144.001.0001

Skousen, M. (2021). Sosyalizmin yaratıcı yıkımı: Joseph Schumpeter'ın karanlık vizyonu. In *İktisadi Düşünce Tarihi: Modern İktisadın İnşası* (Nineth, pp. 473–494). Adres Yayınları.

Solow, R. M. (1956). A contribution to the theory of economic growth. *Quarterly Journal of Economics*, *70*(1), 65–94. https://doi.org/10.2307/1884513

Staiger, D., & Stock, J. H. (1997). Instrumental variables regression with weak instruments. *Econometrica*, *65*(3), 557. https://doi.org/10.2307/2171753

Stock, J. H., & Yogo, M. (2002). *Testing for weak instruments in linear IV regression* (t0284; NBER Working Paper). https://ssrn.com/abstract=1734933

Sundberg, R., Eck, K., & Kreutz, J. (2012). Introducing the UCDP non-state conflict dataset. *Journal of Peace Research*, *49*(2), 351–362. https://doi.org/10.1177/0022343311431598

Svensson, J. (1998). Investment, property rights and political instability: Theory and evidence. *European Economic Review*, *42*(7), 1317–1341. https://doi.org/10.1016/S0014-2921(97)00081-0

Swan, T. W. (1956). Economic growth and capital accumulation. *Economic Record*, *32*(2), 334–361. https://doi.org/10.1111/J.1475-4932.1956.TB00434.X

Tavares, J., & Wacziarg, R. (2001). How democracy affects growth. *European Economic Review*, *45*(8), 1341–1378. https://doi.org/10.1016/S0014-2921(00)00093-3

Telatar, E., & Cangir, N. (2014). Türkiye için politik istikrarsızlık endeksleri: 1955-2009 dönemi. *Sosyoekonomi*, *21*(21), 9–30. https://doi.org/10.17233/se.73988

Telatar, E., Telatar, F., Cavusoglu, T., & Tosun, U. (2009). *Political instability, political freedom and inflation*. https://doi.org/10.1080/00036840802360237

Temple, J. (1999). The new growth evidence. *Journal of Economic Literature*, *37*(1), 112–156.

The Fund for Peace. (2017). *Fragile state index methodology and cast framework.*

The Fund for Peace. (2024). *Fragile state index*. The Fund for Peace.

The international country risk guide methodology. (2022). www.prsgroup.com

Tobler, W. R. (1970). A computer movie simulating urban growth in the Detroit region. *Economic Geography*, *46*, 234. https://doi.org/10.2307/143141

Tumen, S. (2016). The economic impact of Syrian refugees on host countries: Quasi-experimental evidence from Turkey. *American Economic Review*, *106*(5), 456–460. https://doi.org/10.1257/AER.P20161065

United Nations. (2024a). *Human development index*. https://hdr.undp.org/data-center/

United Nations. (2024b). *National accounts estimates of main aggregates*. https://unstats.un.org/UNSDWebsite/

United Nations. (2024c). *Un Comtrade.* https://comtradeplus.un.org/

United Nations. (2025). *UN comtrade database: International trade statistics*. https://comtrade.un.org

Venieris, Y. P., & Gupta, D. K. (1986). Income distribution and sociopolitical instability as determinants of savings: A cross-sectional model. *Journal of Political Economy*, *94*(4), 873–883.

Windmeijer, F. (2005). A finite sample correction for the variance of linear efficient two-step GMM estimators. *Journal of Econometrics*, *126*(1), 25–51. https://doi.org/10.1016/J.JECONOM.2004.02.005

Wooldridge, J. M. (2002). *Econometric analysis of cross section and panel data*. MIT Press.

Wooldridge, J. M. . (2020). *Introductory econometrics: a modern approach* (Seventh). Cengage.

World Bank. (2024a). *World development indicators*. https://databank.worldbank.org/source/world-development-indicators

World Bank. (2024b). *World integrated trade solution*. https://wits.worldbank.org/

World Bank. (2025). *World integrated trade solution (WITS) database: trade statistics and tariff data*. https://wits.worldbank.org

World Trade Organization. (2024). *The WTO Stats.* https://stats.wto.org/

Worldwide governance indicators. (2024). World Bank.

EXTENDED ABSTRACT

The study of economic growth has evolved significantly since the classical economists emphasized land, labor, and capital. The Harrod-Domar model introduced savings and investment as key growth mechanisms, while the neoclassical Solow model shifted focus to capital accumulation, labor, and exogenous technological progress. However, the limitations of these models, particularly their assumption of technology as exogenous, paved the way for the development of endogenous growth theories. Scholars like P. M. Romer and Robert Lucas emphasized human capital, knowledge spillovers, and research and development (R&D) as internal drivers of sustained growth. Furthermore, the steady-state level of economic growth of countries can be enhanced only through increases in productivity, which are possible with enhancements in human capital and technological advancements. More recently, institutional economics has reframed growth and its components revealed by neoclassical economics as multidimensional processes shaped by institutional structures, political systems, and historical legacies. The institutional economics approach argues that the mainstream economics approach is insufficient in revealing the cause-and-effect relationship of economic activities and processes. Institutional economics reveals that production inputs such as labor, capital, and land are insufficient to explain differences in economic growth across space and time. Long-term solutions can be developed by analyzing economic performance not only in terms of proximate causes such as savings levels, employment rates, foreign direct investments, foreign trade volume, etc., but also by identifying the institutional structures and necessary transformations that provide the environment that creates them. Besides these proximate reasons, there are more fundamental reasons that make economic differences particularly pronounced in the long run. Institutional structures, as the core determinants of these

inputs of production, are found to determine the distribution and allocation relations of economic processes in the long run. Political structures, geographical circumstances, historical backgrounds, and social ways of thinking affect decision-making not only in macro- but also in micro-scale processes through determined forms, which are sometimes called path-dependent. Therefore, examining the interaction of sociological, historical, psychological, and political institutional structures through interdisciplinary methods in economic growth and development studies has a more prominent role in producing more fundamental solutions for the economic performance of countries.

This dissertation builds on these foundations, focusing on a relatively underexplored dimension: the impact of political instability in neighboring countries on economic growth. The global landscape of economic performance reveals sharp contrasts, such as the East Asian "miracle" versus Latin America's "lost decades". These examples emphasize the role of non-economic factors in shaping growth outcomes. While domestic political instability has been extensively studied, the spillover effects of instability in neighboring countries—termed Neighboring Political Instability (NPI) in this study—have received less attention. Yet, regional instability can disrupt trade, investment, and human capital flows, with significant economic consequences across neighboring countries. This dissertation seeks to address this gap by examining how the instabilities of neighboring countries influence economic growth across diverse regional and income circumstances.

The uneven distribution of economic growth across countries remains a main question in economics. Why do some nations achieve rapid and sustained growth while others suffer in stagnation or volatility, even when some of them are starting from similar economic conditions? Traditional growth models, such as Solow's neoclassical framework, predict convergence among countries with comparable savings and population growth rates. However, empirical evidence reveals persistent income disparities, thus challenging the convergence hypothesis originated from neoclassical growth models. Scholars like Barro and Sala-i-Martin argue for conditional convergence, conditioned for countries on similar institutional and economic structures, while some others highlight how knowledge accumulation or

an increase in productivity can exacerbate divergence in an economic environment that benefits from increasing returns to scale. These debates underscore the need to explore factors beyond capital, labor, and technology.

Political instability emerges as a critical determinant of economic performance, particularly through its impact on institutions and resource allocation. While domestic instability, with its manifestations as coups, civil wars, political violence types, or civil unrest, has been linked to reduced growth, the regional dimension of instability remains underexplored. Neighboring political instability can create economic uncertainty, disrupt cross-border trade, and trigger migration or security concerns even if a country has secured its domestic political stability, all of which may impede growth. Furthermore, the impact channels and the direction of the impact can vary across different country-specifics. For example, European countries, with their high economic integration, may have distinct reflections to regional destabilizing events, whereas East Asia or Latin American countries exhibit unique dynamics. The literature lacks a comprehensive analysis of how neighboring political instability affects growth across different regions and income levels, and what transmission channels such as investment, human capital, or trade mediate these effects. This dissertation addresses this gap by investigating the impact of neighboring political instability on economic growth, with a focus on regional, ethnic composition, regime type, and income-level variations, as well as comparing the impact of domestic political instability. Theoretically, integrating regional spillovers into growth frameworks can refine the analyses of institutional economics, thereby offering a broader understanding of cross-country income disparities. Practically, policymakers in regions that are more prone to political instability require evidence-based strategies to alleviate its economic consequences or seize potential opportunities. The understanding of economic growth remains incomplete, and the ability to design effective policies in an interconnected global economy will be limited without addressing this gap. This dissertation seeks to fill this void by examining neighboring political instability's impact on economic growth, its transmission channels, and its variations across regions and income levels, contributing to both academic discourse and policy development.

This dissertation primarily aims to examine how neighboring political instability affects economic growth across countries. Secondly, it investigates how the effects of neighboring political instability vary across geographical regions such as Europe and West Asia, East Asia and the Pacific, Central Asia, South Asia, the Middle East and North Africa, North America, Latin America, or Sub-Saharan Africa. Thirdly, it explores how income levels modulate the impact of neighboring political instability on economic growth. Fourthly, it investigates whether regime type differences affect the linkage between neighboring political instability and economic growth. Fifthly, it aims to identify the possible transmission channels through which neighboring political instability influences economic growth. Finally, it tests the robustness of the findings to alternative measures of political instability, weighting methods of the index of political instability, and econometric methods. These questions are established to guide the empirical analysis, which relies on a panel dataset covering between 159 to 172 countries and employs econometric techniques to ensure causal inference and robustness.

The study focuses on the impact of neighboring political instability on economic growth, utilizing a panel dataset of 159-172 countries varying according to data availability, covering the period between 1996 to 2023, as informed by data sources like the World Governance Indicators, the Worldbank databank, IMF databank, UN databank, and the Fragile States Index. The study examines regional variations and compares differences across income levels, regime types, ethnic diversity levels, and political instability types. It employs two-stage least squares fixed effects to conduct comparisons across different model specifications and country-groupings, as well as analyses to reveal possible transmission channels, i.e., investment, government expenditure, human capital, and trade. The scope is limited to neighboring political instability, though domestic political instability itself and interactions with domestic political instability are included in further analyses to maintain analytical focus on regional spillovers.

The findings reveal a complicated and context-dependent impact of neighboring political instability on economic performance, varying significantly by region, income level, regime type, and ethnic fragmentation. The analysis also compares the

effects of domestic and neighboring political instability to assess their relative contributions to economic performance. The study endeavors to clarify the interconnectedness of political and economic structures by combining the analysis results with theoretical insights from economic growth models and institutional economics due to the assertion that understanding cross-country income disparities requires this combination. The primary finding is that political instability in neighboring countries generally exerts a negative effect on the economic growth of host countries, developed by the uncertainty and disruptions that resulted from the spillover effect of political instability across neighbors. This adverse impact is most pronounced in economies with high levels of economic interdependence with their neighbors, in cases where dense trade, investment, and security ties amplify the spillover effects of instability. The uncertainty stemming from neighboring destabilization may discourage capital formation, increase security-related expenditures, or distort human capital in certain areas with migration, all of which can constrain economic growth. However, the effect is not uniform but has significant variations across country-groupings. In some instances, neighboring instability fosters economic opportunities, such as through inflows of skilled migrants or trade rerouting, though these positive effects are less common and highly country-specific. Economies with limited regional integration or strong domestic institutions may experience an insignificant impact, suggesting that local factors could overshadow the impact of external shocks.

Regional differences further highlight the complicated nature of this relationship. The negative effect of neighboring instability is particularly strong in regions characterized by high economic integration, as disruptions in one country can destabilize regional supply chains, deter foreign investment, or raise security concerns, thereby directly affecting the economic performance of neighboring countries. On the contrary, some regions exhibit positive effects that can result from adaptive responses to instability, such as shifts in trade routes or increased migration that foster domestic economies. These positive outcomes are typically observed in regions with flexible economic structures or strategic geographic positions. Other regions show insignificant effects, where domestic determinants or limited interdependence may overshadow the influence of neighboring instability. These

variations reveal the critical role of geographic and economic contexts in shaping the transmission of instability's effects, its direction, and magnitudes. The impact of neighboring political instability also varies across income levels, with high-income countries experiencing the most pronounced negative effects. Their deep integration into global and regional economic networks makes them particularly sensitive to disruptions in neighboring countries, as instability disrupts stable trade and investment environments that are critical to their economic performances. Upper-middle-income countries show similar but less consistent sensitivity, reflecting variations in economic integration and institutional capacity. Lower-middle and low-income countries often exhibit weaker or insignificant effects, likely due to their limited reliance on regional ties or the dominance of domestic factors. However, the findings for low-income countries are less robust, possibly due to data heterogeneity or their economic isolation from the regional and global economic networks, which may insulate them from external shocks while exposing them to other challenges.

The study further explores how regime type influences the relationship between neighboring political instability and economic growth in two stages. The first stage focuses on the moderating role of a country's level of democracy on the impact of NPI. The interaction term between democracy and NPI is statistically insignificant for all models, suggesting that the level of democracy does not significantly moderate NPI's economic impact, while democracy's direct effect on growth is positive but insignificant with clustered standard errors. Given the lack of significant interaction and level effects, the analysis shifts to subgroup analyses by classifying countries into four regime types: liberal democracy, electoral democracy, electoral autocracy, and closed autocracy. Electoral democracies exhibit the largest and most significant negative NPI coefficient, indicating heightened vulnerability to neighborhood instability. Electoral autocracies show a smaller but still significant effect, while the impact is generally insignificant in liberal democracies and closed autocracies. Overall, while the level of democracy does not significantly moderate the economic impact of NPI in the aggregate, regime-type subgroup analysis reveals that hybrid regimes, whether electoral democracies or electoral autocracies, are vulnerable to external political instability. This suggests that well-established institutional structures, whether fully democratic or fully autocratic, may enhance

resilience to neighboring instability, while mixed regimes suffer apparently from neighboring destabilizing events. These findings suggest that political institutions shape the extent to which neighboring instability impacts growth, with mixed regimes facing greater exposure to the political instability of their neighbors.

Ethnic fragmentation is included to add another layer of complexity to the analysis, considering the complicated nature of the political environment. Countries with high levels of ethnic diversity are more susceptible to the negative effects of neighboring instability, as external political stress can exacerbate domestic ethnic tensions, leading to social unrest or a reduction in social cohesion. This amplifies the economic disruptions caused by political instability, as resources are diverted to manage the consequences of conflicts, and investor confidence diminishes. In contrast, ethnically homogeneous countries are better structured to absorb external shocks, as their social cohesion mitigates the spillover effects of neighboring instability. However, high ethnic fragmentation can also create opportunities under certain combinations of country attributes, such as when diverse populations facilitate migration or trade networks that benefit from instability-driven shifts. These dynamics highlight the interplay between domestic social structures and external political environments, underscoring the need for a sophisticated understanding of how ethnic composition mediates economic outcomes.

A critical aspect of the study is the comparison between domestic and neighboring political instability. The analysis reveals that domestic instability generally has a more significant and direct negative impact on economic growth than neighboring instability, as it disrupts internal governance, economic policies, and societal stability. Domestic turmoil weakens investor confidence, impedes government effectiveness, and reduces productive capacity, leading to significant economic challenges. Neighboring instability, on the other hand, exerts its influence more indirectly through spillover effects, such as reduced trade, security concerns, or investment flows. However, the effects of neighboring instability can approach or even rival those of domestic instability, particularly when external disruptions trigger domestic responses, such as increased security spending or social unrest, in places where high regional integration exists. The connection between the two forms

of instability is also significant such that domestic instability can exacerbate the economic consequences of neighboring instability by weakening a country's resilience to external shocks. These findings emphasize the complementary nature of domestic and external political environments in shaping the economic performance of countries.

The study endeavors to identify several key transmission channels through which neighboring political instability affects economic growth, thereby providing a detailed understanding of the mechanisms at play. Investment is a primary path, with political instability significantly reducing both domestic and foreign capital formation due to heightened uncertainty. This effect is particularly strong in investment-intensive economies where disruptions in capital flows have substantial impacts. Human capital presents a mixed effect such that while some economies seem to benefit from skilled migration from unstable neighbors, others face disruptions in education and labor productivity that outweigh potential gains from skilled migration. Government expenditure often shifts toward security and defense in response to neighboring instability, thus diverting resources away from productive investments and worsening the negative economic impact. The analysis of trade shows that it plays a secondary role, and its significance depends on regional trade integration. Political instability disrupts cross-border trade by shrinking markets or increasing costs in highly integrated economies, while this channel is less prominent in less integrated economies. These channels highlight the multifaceted nature of instability's impact, with investment and government expenditure as critical channels.

The robustness of the findings was tested through various methodological approaches, including alternative measures of neighboring political instability, different instrumental variables with different weighting methods, and dynamic econometric models. These tests addressed potential biases arising from measurement approaches, endogeneity concerns, data sources, and model specifications. The negative impact of neighboring political instability remains consistent across these specifications, thereby strengthening the reliability of the

results. Variations in effect size across models reflect the sensitivity of the findings to methodological choices and data availability, but the overall relationship holds.

The first robustness check involves recalculating the measure of neighboring political instability using a cumulative trade-weighted approach. This method addresses long-term economic links through trade by assigning fixed weights based on cumulative trade volumes to reach a more long-term representation of cross-border economic relationships compared to the baseline approach. The results demonstrated a negative impact on economic growth, with coefficients often larger than those in the baseline models. In order to address potential endogeneity in the primary measure of neighboring political instability, an alternative instrumental variable approach was employed by using the political instability of neighbors' neighbors. This second-order instability measure was selected for its expected exogeneity because it is less likely to be directly correlated with the host country's economic growth while still influencing the instability of their immediate neighbors. The results confirmed the negative effect on economic growth, though the significance and magnitude varied across model specifications.

Another robustness test involved substituting the original instability measure with an alternative index derived from a multidimensional dataset focused on state fragility, with the exclusion of economic indicators to minimize multicollinearity risks. This alternative measure revealed negative and significant impacts on economic growth across various model specifications. Although the coefficients were smaller due to differences in scale, the findings are similar to the original results, which affirms the robustness of the baseline conclusion. The reduced observation stemming from the alternative dataset's more limited temporal coverage suggests constraints in explanatory power, but the consistency of the negative effect enhances confidence in the main findings. Finally, the robustness of the results was tested using a dynamic econometric approach, which is a two-step system generalized method of moments (GMM) estimator. This method addressed potential biases from dynamic panel data like autocorrelation and endogeneity by incorporating lagged dependent variables and instruments. The findings confirmed a negative and significant impact of neighboring political instability on economic

growth, though with smaller coefficients compared to the static models. Diagnostic tests of GMM of no evidence of second-order autocorrelation and appropriate instrument exogeneity supported the model's validity. Overall, these robustness checks demonstrate that the negative impact of neighboring political instability on economic growth is consistent across various measurement methods, instrumental choices, data sources, and estimation techniques. These tests not only validate the consistency of empirical findings but also emphasize the complicated linkage between external political circumstances with economic performance. The findings align with the institutional approach to economic growth, emphasizing political stability as a fundamental determinant of economic performance.

In conclusion, this dissertation advances the understanding of neighboring political instability as a determinant of economic growth, offering theoretical insights, empirical evidence, and policy recommendations. By highlighting the role of regional spillovers, it underscores the interconnected nature of modern economies and the need for coordinated responses to instability. While limitations exist, the study's robust findings and proposed research directions provide a foundation for future scholarship on economic development in an increasingly volatile world.

GENIŞLETILMIŞ ÖZET

Ekonomik büyüme araştırmaları, klasik iktisatçıların toprak, emek ve sermayeye vurgu yapmasından bu yana kayda değer ölçüde gelişmiştir. Harrod-Domar modeli, tasarrufları ve yatırımı temel büyüme mekanizmaları olarak tanıtırken, neoklasik Solow modeli sermaye birikimi, emek ve dışsal teknolojik ilerlemeye odaklanmıştır. Ancak, bu modellerin sınırlamaları, özellikle teknolojiyi dışsal kabul etmeleri, içsel büyüme teorilerinin gelişimi için zemin hazırlamıştır. P. M. Romer ve Robert Lucas gibi akademisyenler, sürdürülebilir büyümenin içsel itici güçleri olarak beşeri sermayeye, bilgi yayılımlarına ve araştırma ve geliştirmeye (Ar-Ge) vurgu yapmışlardır. Ülkelerin durağan durum ekonomik büyüme düzeyi, ancak beşeri sermaye ve teknolojik gelişmelerle mümkün olan verimlilik artışıyla artırılabilir. Daha yakın zamanda, kurumsal iktisat, neoklasik iktisat tarafından ortaya konan büyümeyi ve bileşenlerini, kurumsal yapılar, siyasi sistemler ve tarihsel miraslar tarafından şekillenen çok boyutlu süreçler olarak yeniden tanımlamıştır. Kurumsal iktisat yaklaşımı, ana akım iktisat yaklaşımının ekonomik faaliyetlerin ve süreçlerin neden-sonuç ilişkisini ortaya koymada yetersiz olduğunu savunmaktadır. Kurumsal iktisat, emek, sermaye ve toprak gibi üretim girdilerinin, ekonomik büyümedeki farklılıkları zaman ve mekan boyunca açıklamada yetersiz olduğunu göstermektedir. Uzun vadeli çözümler, ekonomik performansı sadece tasarruf seviyeleri, istihdam oranı, doğrudan yabancı yatırımlar, dış ticaret hacmi vb. gibi yakın nedenler açısından değil, aynı zamanda bunları oluşturan ortamı sağlayan kurumsal yapıları ve gerekli dönüşümleri belirleyerek geliştirilebilir. Bu yakın nedenlerin yanı sıra, özellikle uzun vadede ekonomik farklılıkları belirginleştiren daha temel nedenler de vardır. Kurumsal yapılar, bu üretim girdilerinin temel belirleyicileri olarak, uzun vadede ekonomik süreçlerin dağıtım ve tahsis ilişkilerini belirlemektedir. Siyasi

yapılar, coğrafi koşullar, tarihsel arka planlar ve sosyal düşünce biçimleri, bazen yol bağımlı olarak adlandırılan belirlenmiş biçimler aracılığıyla sadece makro değil, aynı zamanda mikro ölçekli süreçlerde de karar almayı etkiler. Bu nedenle, ekonomik büyüme ve kalkınma çalışmalarında sosyolojik, tarihsel, psikolojik ve politik kurumsal yapıların etkileşimini disiplinlerarası yöntemlerle incelemek, ülkelerin ekonomik performansı için daha temel çözümler üretmede daha belirgin bir role sahiptir.

Bu tez, bu temeller üzerine inşa edilerek, nispeten az keşfedilmiş bir boyuta odaklanmaktadır: komşu ülkelerdeki siyasi istikrarsızlığın ekonomik büyüme üzerindeki etkisi. Küresel ekonomik performans manzarası, Doğu Asya "mucizesi" ile Latin Amerika'nın "kayıp on yılları" gibi keskin zıtlıklar ortaya koymaktadır. Bu örnekler, büyüme sonuçlarını şekillendiren ekonomik olmayan faktörlerin rolünü vurgulamaktadır. Yurtiçi siyasi istikrarsızlık geniş ölçüde incelenmiş olsa da, komşu ülkelerdeki istikrarsızlığın yayılma etkileri – bu çalışmada Komşu Siyasi İstikrarsızlık (NPI) olarak adlandırılmıştır – daha az dikkat çekmiştir. Ancak, bölgesel istikrarsızlık ticaret, yatırım ve beşeri sermaye akışlarını bozabilir ve komşu ülkeler arasında önemli ekonomik sonuçlar doğurabilir. Bu tez, komşu ülkelerdeki istikrarsızlıkların çeşitli bölgesel ve gelir koşullarında ekonomik büyümeyi nasıl etkilediğini inceleyerek bu boşluğu gidermeyi amaçlamaktadır.

Ülkeler arasında ekonomik büyümenin dengesiz dağılımı, ekonomide ana bir soru olmaya devam etmektedir. Bazı uluslar, benzer ekonomik koşullardan başlamış olsalar bile, neden hızlı ve sürdürülebilir büyüme sağlarken, diğerleri durgunluk veya dalgalanma içinde kalmaktadır? Solow'un neoklasik çerçevesi gibi geleneksel büyüme modelleri, benzer tasarruf ve nüfus artış hızlarına sahip ülkeler arasında yakınsama öngörmektedir. Ancak, ampirik kanıtlar kalıcı gelir farklılıklarını ortaya koymakta ve neoklasik büyüme modellerinden kaynaklanan yakınsama hipotezini sorgulamaktadır. Barro ve Sala-i-Martin gibi akademisyenler, benzer kurumsal ve ekonomik yapılar için koşullu yakınsamayı savunurken, bazıları bilgi birikiminin veya verimlilik artışının, ölçeğe göre artan getirilerden faydalanan bir ekonomik ortamda nasıl ıraksamayı şiddetlendirebileceğini vurgulamaktadır. Bu tartışmalar,

sermaye, emek ve teknolojinin ötesindeki faktörleri araştırmanın gerekliliğini vurgulamaktadır.

Siyasi istikrarsızlık, özellikle kurumlar ve kaynak tahsisi üzerindeki etkisiyle ekonomik performansın kritik bir belirleyicisi olarak ortaya çıkmaktadır. Darbeler, iç savaşlar, siyasi şiddet türleri veya sivil huzursuzluk gibi tezahürleriyle iç istikrarsızlık, büyümenin azalmasıyla ilişkilendirilmiş olsa da, istikrarsızlığın bölgesel boyutu yeterince araştırılmamıştır. Komşu siyasi istikrarsızlık, bir ülke kendi iç siyasi istikrarını sağlamış olsa bile ekonomik belirsizlik yaratabilir, sınır ötesi ticareti bozabilir ve göç veya güvenlik endişelerini tetikleyebilir; bunların hepsi büyümeyi engelleyebilir. Ayrıca, etki kanalları ve etki yönü ülkeye özgü koşullara göre değişebilir. Örneğin, yüksek ekonomik entegrasyona sahip Avrupa ülkeleri, bölgesel istikrarsızlaştırıcı olaylara farklı tepkiler verebilirken, Doğu Asya veya Latin Amerika ülkeleri benzersiz dinamikler sergileyebilir. Literatürde, komşu siyasi istikrarsızlığın farklı bölgelerde ve gelir düzeylerinde büyümeyi nasıl etkilediğine ve yatırım, beşeri sermaye veya ticaret gibi hangi geçiş kanallarının bu etkileri aracılık ettiğine dair kapsamlı bir analiz eksikliği bulunmaktadır. Bu tez, komşu siyasi istikrarsızlığın ekonomik büyüme üzerindeki etkisini, bölgesel, etnik yapı, rejim tipi ve gelir düzeyi varyasyonlarına odaklanarak ve iç siyasi istikrarsızlığın etkisiyle karşılaştırılarak bu boşluğu gidermeyi amaçlamaktadır. Teorik olarak, bölgesel yayılımları büyüme çerçevelerine entegre etmek, kurumsal iktisat analizlerini rafine edebilir ve böylece ülkeler arası gelir farklılıkları hakkında daha geniş bir anlayış sunabilir. Pratik olarak, siyasi istikrarsızlığa daha yatkın bölgelerdeki politika yapıcılar, ekonomik sonuçlarını hafifletmek veya potansiyel fırsatları değerlendirmek için kanıta dayalı stratejilere ihtiyaç duymaktadır. Ekonomik büyümenin anlaşılması eksik kalacak ve birbirine bağlı küresel ekonomide etkili politikalar tasarlama yeteneği, bu boşluk giderilmeden sınırlı olacaktır. Bu tez, komşu siyasi istikrarsızlığın ekonomik büyüme üzerindeki etkisini, geçiş kanallarını ve bölgeler ve gelir düzeyleri arasındaki varyasyonlarını inceleyerek bu boşluğu doldurmayı amaçlamakta, hem akademik söyleme hem de politika geliştirmeye katkıda bulunmaktadır.

Bu tez, öncelikle komşu ülkelerdeki siyasi istikrarsızlığın ekonomik büyümeyi ülkeler arasında nasıl etkilediğini incelemeyi hedeflemektedir. İkinci olarak, komşu siyasi istikrarsızlığın etkilerinin Avrupa ve Batı Asya, Doğu Asya ve Pasifik, Orta Asya, Güney Asya, Orta Doğu ve Kuzey Afrika, Kuzey Amerika, Latin Amerika veya Sahra Altı Afrika gibi coğrafi bölgeler arasında nasıl değiştiğini araştırmaktadır. Üçüncü olarak, gelir düzeylerinin komşu siyasi istikrarsızlığın ekonomik büyüme üzerindeki etkisini nasıl modüle ettiğini incelemektedir. Dördüncü olarak, rejim tipi farklılıklarının komşu siyasi istikrarsızlık ile ekonomik büyüme arasındaki bağlantıyı etkileyip etkilemediğini araştırmaktadır. Beşinci olarak, komşu siyasi istikrarsızlığın ekonomik büyümeyi etkilediği olası geçiş kanallarının neler olduğunu belirlemeyi amaçlamaktadır. Son olarak, bulguların siyasi istikrarsızlığın alternatif ölçümlerine, siyasi istikrarsızlık endeksinin ağırlıklandırma yöntemlerine ve ekonometrik yöntemlere karşı sağlam olup olmadığını test etmektedir. Bu sorular, 159 ila 172 ülkeyi kapsayan bir panel veri setine dayanan ve nedensel çıkarım ve sağlamlığı sağlamak için ekonometrik teknikler kullanan ampirik analizi yönlendirmek üzere oluşturulmuştur.

Bu tez, ekonomik büyüme ve kurumsal iktisat alanlarına önemli teorik ve pratik katkılar sağlaması beklenmektedir. Teorik olarak, siyasi istikrarsızlığın bölgesel boyutunu, geleneksel büyüme modellerinde göz ardı edilen bir faktörü, kurumsal yaklaşıma dahil ederek genişletmektedir. Sosyal altyapıyı verimliliğin bir itici gücü olarak göz önünde bulundurarak, bu çalışma komşu istikrarsızlığın komşu ülkeler arasında yayılımlar yoluyla iç kurumlar ve ekonomik sonuçlar üzerinde etkisi olduğunu savunmaktadır. Komşu siyasi istikrarsızlığı inceleyerek, tez neoklasik ve içsel büyüme teorilerini kurumsal perspektiflerle birleştirmeye çalışmakta, böylece ülkeler arası gelir farklılıklarını anlamak için çok boyutlu bir çerçeve sunmaktadır. Ekonomik büyümenin itici güçlerini anlamak, ekonomide ana bir zorluk olmaya devam etmekle birlikte, sermaye birikimi, emek ve teknolojik ilerleme gibi yakın nedenlere odaklanan geleneksel modeller, kalıcı ülkeler arası farklılıkları açıklamada yetersiz kalmaktadır. Kurumsal iktisat, iç siyasi istikrar ve yönetişimin rolünü dahil ederek alanı genişletmiş olsa da, bu çerçevelerin ekonomik sonuçları şekillendiren daha geniş bağlamları göz ardı etme olasılığı vardır. Bu çalışma, komşu siyasi istikrarsızlığın ekonomik büyüme üzerindeki etkisini inceleyerek, ülke

özelliklerini ve jeopolitik gerçekleri kapsamlı bir analitik çerçeveye entegre ederek bu sınırlamayı ele almaktadır. Önemi hem teorik katkılarında hem de pratik çıkarımlarında yatması ve ekonomik kalkınmaya çok yönlü bir bakış açısı sunması beklenmektedir.

Teorik olarak, çalışma, ekonomik büyümenin sadece yaygın modeller veya iç faktörlerle tam olarak anlaşılamayacağını göstererek kurumsal yaklaşımı zenginleştirmesi beklenmektedir. Ülkelerin komşularının etkisini dahil ederek, istikrarsızlığın ticaretin bozulması, yatırımların engellenmesi veya göç gibi çeşitli faktörler yoluyla bölgesel yayılımlarını yakalamakta ve bunlar ulusal ekonomileri derinden etkilemektedir. Ayrıca, analiz, ekonomik yapılar, tarihsel miraslar, rejim tipleri ve gelir düzeyleri gibi ülke özelliklerini hesaba katmakta ve bu da komşu siyasi istikrarsızlığın etkisinin araştırılmasının olası sonuçlarını güçlendirmektedir. Çalışma ayrıca, bir ülkenin istikrarsızlaştırıcı bölgelere olan konumunun veya bölgesel bağlılıktaki rolünün uzun vadeli ekonomik yörüngesini şekillendirdiğini kabul etmek için jeopolitik bağlamları da vurgulamaktadır. Bu daha geniş çerçeve, ekonomik büyümeyi açıklamada yakın nedenlere güvenmeyi sorgulamakta ve ulusal ekonomilerin heterojenliğini yansıtabilecek çok boyutlu yaklaşımları önermekte, böylece büyüme teorisi anlayışını geliştirmektedir.

Pratik olarak, bulgular, karmaşık bölgesel dinamiklerde yol alan politika yapıcılar için kritik bilgiler sunmaktadır. Çalışma, farklı bağlamlarda temel geçiş kanallarını belirleyerek komşu istikrarsızlığının ekonomik sonuçlarını hafifletme konusunda rehberlik sunmaktadır. Yatırım teşvikleri veya bölgesel işbirliği gibi ülkeye ve bölgeye özgü stratejiler, siyasi istikrarsızlığın etkilerinin daha şiddetli olduğu bölgelerde olumsuz etkileri hafifletebilir. Tersine, istikrarsızlaştırıcı olaylara daha yatkın bölgeler, ticaret, hükümet harcamalarının yeniden yönlendirilmesi, sermaye çekimi veya göç politikaları yoluyla komşu siyasi istikrarsızlığın fırsatlarından yararlanabilir. Çalışma, ülkeye özgü ve jeopolitik faktörlerin etkileşimini vurgulayarak daha etkili, bağlama duyarlı politika uygulamalarını mümkün kılmaktadır. Beklenen katkısı, bu boyutları bir araya getirmesi, literatürdeki kritik bir boşluğu doldurması ve birbirine bağlı küresel bir ortamda ekonomik büyümenin karmaşık doğası üzerine gelecekteki araştırmalar için bir temel sağlamasıdır.

Çalışma, veri kaynaklarına (Dünya Yönetişim Göstergeleri, Dünya Bankası veri tabanı, IMF veri tabanı, BM veri tabanı ve Kırılgan Devletler Endeksi) göre 1996'dan 2023'e kadar olan dönemi kapsayan, veri kullanılabilirliğine göre 159 ila 172 ülkeyi içeren bir panel veri kümesi kullanarak komşu siyasi istikrarsızlığın ekonomik büyüme üzerindeki etkisine odaklanmaktadır. Çalışma bölgesel farklılıkları inceliyor ve gelir düzeyleri, rejim tipleri, etnik çeşitlilik düzeyleri ve siyasi istikrarsızlık türleri arasındaki farklılıkları karşılaştırmaktadır. Farklı model özellikleri ve ülke grupları arasında karşılaştırmalar yapmak, ayrıca olası geçiş kanallarını (yatırım, hükümet harcamaları, beşeri sermaye ve ticaret) ortaya koymak için iki aşamalı en küçük kareler sabit etkilerini kullanmaktadır. Kapsam, komşu siyasi istikrarsızlıkla sınırlı olsa da, iç siyasi istikrarsızlığın kendisi ve iç siyasi istikrarsızlıkla etkileşimleri, bölgesel yayılımlara analitik odaklanmayı sürdürmek için sonraki analizlere dahil edilmiştir.

Bulgular, komşu siyasi istikrarsızlığın ekonomik performans üzerinde karmaşık ve bağlama bağlı bir etkisini ortaya koymaktadır; bu etki bölge, gelir düzeyi, rejim tipi ve etnik parçalanma açısından önemli ölçüde değişmektedir. Analiz ayrıca, iç ve komşu siyasi istikrarsızlığın ekonomik performansa göreceli katkılarını değerlendirmek için karşılaştırmaktadır. Çalışma, ülkeler arası gelir farklılıklarını anlamak için bu kombinasyonun gerekli olduğu iddiasıyla, analiz sonuçlarını ekonomik büyüme modellerinden ve kurumsal iktisattan teorik bilgilerle birleştirerek siyasi ve ekonomik yapıların birbirine bağlılığını netleştirmeye çalışmaktadır. Birincil bulgu, komşu ülkelerdeki siyasi istikrarsızlığın genellikle ev sahibi ülkelerin ekonomik büyümesi üzerinde olumsuz bir etki yaratmasıdır; bu etki, siyasi istikrarsızlığın komşular arasında yayılma etkisinden kaynaklanan belirsizlik ve aksaklıklardan kaynaklanmaktadır. Bu olumsuz etki, komşularıyla yüksek düzeyde ekonomik karşılıklı bağımlılığa sahip ekonomilerde en belirgindir; yoğun ticaret, yatırım ve güvenlik bağları, istikrarsızlığın yayılma etkilerini güçlendirmektedir. Komşu istikrarsızlaşmadan kaynaklanan belirsizlik, sermaye oluşumunu caydırabilir, güvenlik ile ilgili harcamaları artırabilir veya göçle belirli alanlarda beşeri sermayeyi bozabilir; bunların hepsi ekonomik büyümeyi kısıtlayabilir. Ancak, etki tek tip değildir ancak ülke grupları arasında önemli farklılıklar göstermektedir. Bazı durumlarda, komşu istikrarsızlık, vasıflı göçmen

akışları veya ticaretin yeniden yönlendirilmesi gibi ekonomik fırsatları teşvik etmektedir, ancak bu olumlu etkiler daha az yaygın ve ülkeye özgüdür. Sınırlı bölgesel entegrasyona veya güçlü iç kurumlara sahip ekonomilerde önemsiz bir etki görülebilir, bu da yerel faktörlerin dış şokların etkisini gölgede bırakabileceğini düşündürmektedir.

Bölgesel farklılıklar, bu ilişkinin karmaşık doğasını daha da vurgulamaktadır. Komşu istikrarsızlığın olumsuz etkisi, yüksek ekonomik entegrasyonla karakterize edilen bölgelerde özellikle güçlüdür, çünkü bir ülkedeki aksaklıklar bölgesel tedarik zincirlerini istikrarsızlaştırabilir, yabancı yatırımı caydırabilir veya güvenlik endişelerini artırabilir, böylece komşu ülkelerin ekonomik performansını doğrudan etkileyebilir. Tam tersine, bazı bölgeler, istikrarsızlığa adaptif tepkilerden kaynaklanabilecek olumlu etkiler sergilemektedir; örneğin, ticaret yollarındaki değişimler veya iç ekonomileri teşvik eden artan göç. Bu olumlu sonuçlar genellikle esnek ekonomik yapılara veya stratejik coğrafi konumlara sahip bölgelerde gözlemlenmektedir. Diğer bölgeler ise, iç belirleyicilerin veya sınırlı karşılıklı bağımlılığın komşu istikrarsızlığının etkisini gölgede bırakabileceği önemsiz etkiler göstermektedir. Bu farklılıklar, istikrarsızlığın etkilerinin iletimini, yönünü ve büyüklüklerini şekillendirmede coğrafi ve ekonomik bağlamların kritik rolünü ortaya koymaktadır. Komşu siyasi istikrarsızlığın etkisi gelir düzeylerine göre de değişmektedir; yüksek gelirli ülkeler en belirgin olumsuz etkileri yaşamaktadır. Küresel ve bölgesel ekonomik ağlara derin entegrasyonları, onları komşu ülkelerdeki aksaklıklara özellikle duyarlı hale getirmektedir, çünkü istikrarsızlık, ekonomik performansları için kritik olan istikrarlı ticaret ve yatırım ortamlarını bozmaktadır. Üst-orta gelirli ülkeler benzer ancak daha az tutarlı bir duyarlılık göstermekte, ekonomik entegrasyon ve kurumsal kapasitedeki farklılıkları yansıtmaktadır. Alt-orta ve düşük gelirli ülkeler genellikle daha zayıf veya önemsiz etkiler sergilemektedir, bu da muhtemelen bölgesel bağlara sınırlı bağımlılıklarından veya iç faktörlerin baskınlığından kaynaklanmaktadır. Ancak, düşük gelirli ülkeler için bulgular daha az sağlamdır, muhtemelen veri heterojenliğinden veya bölgesel ve küresel ekonomik ağlardan ekonomik izolasyonlarından kaynaklanmaktadır, bu da onları dış şoklardan yalıtabilirken diğer zorluklara maruz bırakabilir.

Çalışma ayrıca, rejim tipinin komşu siyasi istikrarsızlık ile ekonomik büyüme arasındaki ilişkiyi iki aşamada nasıl etkilediğini araştırmaktadır. İlk aşama, bir ülkenin demokrasi düzeyinin NPI'nin etkisi üzerindeki düzenleyici rolüne odaklanmaktadır. Demokrasi ile NPI arasındaki etkileşim terimi tüm modeller için istatistiksel olarak önemsizdir, bu da demokrasi düzeyinin NPI'nin ekonomik etkisini önemli ölçüde düzenlemediğini düşündürmektedir; oysa demokrasinin büyüme üzerindeki doğrudan etkisi pozitif ancak kümelenmiş standart hatalarla önemsizdir. Anlamlı etkileşim ve düzey etkilerinin olmaması göz önüne alındığında, analiz, ülkeleri dört rejim tipine (liberal demokrasi, seçimli demokrasi, seçimli otokrasi ve kapalı otokrasi) ayırarak alt grup analizlerine yönelmektedir. Seçimli demokrasiler en büyük ve en anlamlı negatif NPI katsayısını sergilemekte, bu da komşu istikrarsızlığına karşı artan bir güvenlik açığı olduğunu göstermektedir. Seçimli otokrasiler daha küçük ancak yine de anlamlı bir etki göstermekteyken, liberal demokrasilerde ve kapalı otokrasilerde etki genellikle önemsizdir. Genel olarak, demokrasi düzeyi NPI'nin ekonomik etkisini toplamda önemli ölçüde düzenlemese de, rejim tipi alt grup analizi, hibrit rejimlerin, ister seçimli demokrasi ister seçimli otokrasi olsun, dış siyasi istikrarsızlığa karşı savunmasız olduğunu ortaya koymaktadır. Bu, iyi kurulmuş kurumsal yapıların, ister tam demokratik ister tam otokratik olsun, komşu istikrarsızlığına karşı direnci artırabileceğini, karma rejimlerin ise komşu istikrarsızlaştırıcı olaylardan belirgin şekilde muzdarip olduğunu düşündürmektedir. Bu bulgular, siyasi kurumların komşu istikrarsızlığının büyümeyi ne ölçüde etkilediğini şekillendirdiğini ve karma rejimlerin komşularının siyasi istikrarsızlığına daha fazla maruz kaldığını düşündürmektedir.

Etnik parçalanma, siyasi ortamın karmaşık doğası göz önüne alındığında analize başka bir karmaşıklık katmanı eklemektedir. Yüksek düzeyde etnik çeşitliliğe sahip ülkeler, komşu istikrarsızlığının olumsuz etkilerine karşı daha hassastır, çünkü dış siyasi stres, iç etnik gerilimleri şiddetlendirebilir, bu da sosyal huzursuzluğa veya sosyal uyumda azalmaya yol açabilir. Bu, siyasi istikrarsızlığın neden olduğu ekonomik aksaklıkları güçlendirir, çünkü kaynaklar çatışmaların sonuçlarını yönetmek için yönlendirilir ve yatırımcı güveni azalır. Buna karşılık, etnik olarak homojen ülkeler, sosyal uyumlarının komşu istikrarsızlığının yayılma etkilerini hafifletmesi nedeniyle dış şokları absorbe etmeye daha iyi yapılandırılmıştır. Ancak,

yüksek etnik parçalanma, belirli ülke özelliklerinin belirli kombinasyonları altında fırsatlar da yaratabilir; örneğin, farklı nüfuslar, istikrarsızlık kaynaklı değişimlerden faydalanan göç veya ticaret ağlarını kolaylaştırdığında. Bu dinamikler, iç sosyal yapılar ile dış siyasi ortamlar arasındaki etkileşimi vurgulamakta, etnik yapının ekonomik sonuçlara nasıl aracılık ettiğine dair karmaşık bir anlayışın gerekliliğini ortaya koymaktadır.

Çalışmanın kritik bir yönü, iç ve komşu siyasi istikrarsızlık arasındaki karşılaştırmadır. Analiz, iç istikrarsızlığın genellikle ekonomik büyüme üzerinde komşu istikrarsızlığından daha önemli ve doğrudan olumsuz bir etkiye sahip olduğunu ortaya koymaktadır, çünkü iç yönetimi, ekonomik politikaları ve toplumsal istikrarı bozmaktadır. İç karışıklık, yatırımcı güvenini zayıflatır, hükümet etkinliğini engeller ve üretken kapasiteyi azaltır, bu da önemli ekonomik zorluklara yol açar. Komşu istikrarsızlık ise, ticaretin azalması, güvenlik endişeleri veya yatırım akışları gibi yayılma etkileri yoluyla daha dolaylı bir etki yaratmaktadır. Ancak, komşu istikrarsızlığın etkileri, özellikle dış aksaklıklar yüksek bölgesel entegrasyonun olduğu yerlerde artan güvenlik harcamaları veya sosyal huzursuzluk gibi iç tepkileri tetiklediğinde, iç istikrarsızlığın etkilerine yaklaşabilir veya hatta onlarla rekabet edebilir. İki istikrarsızlık biçimi arasındaki bağlantı da önemlidir; iç istikrarsızlık, bir ülkenin dış şoklara karşı direncini zayıflatarak komşu istikrarsızlığının ekonomik sonuçlarını şiddetlendirebilir. Bu bulgular, ülkelerin ekonomik performansını şekillendirmede iç ve dış siyasi ortamların tamamlayıcı doğasını vurgulamaktadır.

Çalışma, komşu siyasi istikrarsızlığın ekonomik büyümeyi etkilediği çeşitli temel geçiş kanallarını belirlemeye çalışmakta, böylece işleyişteki mekanizmalar hakkında ayrıntılı bir anlayış sağlamaktadır. Yatırım birincil yoldur; siyasi istikrarsızlık, artan belirsizlik nedeniyle hem iç hem de dış sermaye oluşumunu önemli ölçüde azaltmaktadır. Bu etki, sermaye akışlarındaki aksaklıkların önemli etkileri olduğu yatırım yoğun ekonomilerde özellikle güçlüdür. Beşeri sermaye ise karışık bir etki sunmaktadır; bazı ekonomiler istikrarsız komşulardan gelen vasıflı göçten faydalanırken, diğerleri eğitim ve işgücü verimliliğinde, vasıflı göçten elde edilebilecek potansiyel kazançları aşan aksaklıklarla karşı karşıya kalmaktadır.

Hükümet harcamaları, komşu istikrarsızlığına yanıt olarak genellikle güvenlik ve savunmaya kaymakta, böylece kaynaklar üretken yatırımlardan uzaklaşmakta ve olumsuz ekonomik etkiyi kötüleştirmektedir. Ticaretin analizi, ikincil bir rol oynadığını ve öneminin bölgesel ticaret entegrasyonuna bağlı olduğunu göstermektedir. Siyasi istikrarsızlık, piyasaları daraltarak veya yüksek entegrasyonlu ekonomilerde maliyetleri artırarak sınır ötesi ticareti bozarken, bu kanal daha az entegre ekonomilerde daha az belirgindir. Bu kanallar, istikrarsızlığın etkisinin çok yönlü doğasını vurgulamakta, yatırım ve hükümet harcamalarını kritik kanallar olarak belirtmektedir.

Bulguların sağlamlığı, komşu siyasi istikrarsızlığın alternatif ölçümleri, farklı ağırlıklandırma yöntemleri ve dinamik ekonometrik modeller dahil olmak üzere çeşitli metodolojik yaklaşımlarla test edilmiştir. Bu testler, ölçüm yaklaşımlarından, içsellik endişelerinden, veri kaynaklarından ve model özelliklerinden kaynaklanan potansiyel yanlılıkları ele almıştır. Komşu siyasi istikrarsızlığın olumsuz etkisi, bu özellikler boyunca tutarlı kalmakta, böylece sonuçların güvenilirliğini güçlendirmektedir. Modeller arasında etki büyüklüğündeki farklılıklar, bulguların metodolojik seçimlere ve veri kullanılabilirliğine duyarlılığını yansıtmaktadır, ancak genel ilişki geçerliliğini korumaktadır.

İlk sağlamlık kontrolü, komşu siyasi istikrarsızlık ölçüsünün kümülatif ticaret ağırlıklı bir yaklaşımla yeniden hesaplanmasını içermektedir. Bu yöntem, sınır ötesi ekonomik ilişkilerin temel yaklaşıma kıyasla daha uzun vadeli bir temsilini sağlamak için kümülatif ticaret hacimlerine dayalı sabit ağırlıklar atayarak ticaret yoluyla uzun vadeli ekonomik bağları ele almaktadır. Sonuçlar, ekonomik büyüme üzerinde olumsuz bir etki göstermiş, katsayılar genellikle temel modellerdekinden daha büyüktür. Komşu siyasi istikrarsızlığın birincil ölçümündeki potansiyel içselliği ele almak için, komşuların komşularının siyasi istikrarsızlığını kullanarak alternatif bir araç değişken yaklaşımı kullanılmıştır. Bu ikinci dereceden istikrarsızlık ölçüsü, ev sahibi ülkenin ekonomik büyümesiyle doğrudan ilişkili olma olasılığının daha düşük olması, ancak yine de yakın komşularının istikrarsızlığını etkilemesi nedeniyle beklenen dışsallığı için seçilmiştir. Sonuçlar, ekonomik

büyüme üzerindeki olumsuz etkiyi doğrulamış, ancak anlamlılık ve büyüklük model özelliklerine göre değişmiştir.

Başka bir sağlamlık testi, orijinal istikrarsızlık ölçüsünü, çoklu doğrusallık risklerini en aza indirmek için ekonomik göstergelerin hariç tutulduğu, devlet kırılganlığına odaklanan çok boyutlu bir veri kümesinden türetilen alternatif bir endeksle değiştirmeyi içermiştir. Bu alternatif ölçü, çeşitli model özelliklerinde ekonomik büyüme üzerinde olumsuz ve anlamlı etkiler ortaya koymuştur. Katsayılar ölçek farklılıkları nedeniyle daha küçük olmasına rağmen, bulgular orijinal sonuçlarla benzerdir, bu da temel sonucun sağlamlığını doğrulamaktadır. Alternatif veri kümesinin daha sınırlı zamansal kapsamından kaynaklanan azaltılmış gözlem, açıklayıcı güçde kısıtlamalar önermektedir, ancak olumsuz etkinin tutarlılığı ana bulgulara olan güveni artırmaktadır. Son olarak, sonuçların sağlamlığı, iki aşamalı bir sistem genelleştirilmiş anlar yöntemi (GMM) tahmincisi olan dinamik bir ekonometrik yaklaşımla test edilmiştir. Bu yöntem, gecikmeli bağımlı değişkenleri ve araçları dahil ederek otokorelasyon ve içsellik gibi dinamik panel verilerinden kaynaklanan potansiyel yanlılıkları ele almıştır. Bulgular, komşu siyasi istikrarsızlığın ekonomik büyüme üzerinde olumsuz ve anlamlı bir etkisini doğrulamış, ancak statik modellere kıyasla daha küçük katsayılarla. İkinci dereceden otokorelasyonun olmadığı GMM teşhis testleri ve uygun araç dışsallığı modelin geçerliliğini desteklemiştir. Genel olarak, bu sağlamlık kontrolleri, komşu siyasi istikrarsızlığın ekonomik büyüme üzerindeki olumsuz etkisinin çeşitli ölçüm yöntemleri, araç seçimleri, veri kaynakları ve tahmin teknikleri boyunca tutarlı olduğunu göstermektedir. Bu testler sadece ampirik bulguların tutarlılığını doğrulamakla kalmamış, aynı zamanda dış siyasi koşullar ile ekonomik performans arasındaki karmaşık bağlantıyı da vurgulamıştır. Bulgular, ekonomik performansın temel belirleyicisi olarak siyasi istikrarı vurgulayan ekonomik büyümeye yönelik kurumsal yaklaşımla uyumludur.

Sonuç olarak bu tez, ekonomik büyümenin bir belirleyicisi olarak komşu siyasi istikrarsızlığın anlaşılmasını ilerletmekte, teorik görüşler, ampirik kanıtlar ve politika önerileri sunmaktadır. Bölgesel yayılmaların rolünü vurgulayarak, modern ekonomilerin birbirine bağlı doğasının ve istikrarsızlığa karşı koordineli tepkilere

duyulan ihtiyacın altını çizmektedir. Sınırlamalar mevcut olsa da, çalışmanın sağlam bulguları ve önerilen araştırma yönleri, giderek daha değişken bir dünyada ekonomik kalkınma üzerine gelecekteki çalışmalar için bir temel sağlamaktadır.