# AMERICAN UNIVERSITY OF BEIRUT

# THE IMPACT OF IMF LOANS ON THE ECONOMIC GROWTH OF MENA REGION COUNTRIES

by
## MARC ROLAND MERHEB

A thesis
submitted in partial fulfillment of the requirements
for the degree of Master of Arts
to the Department of Economics
of the Faculty of Arts and Sciences
at the American University of Beirut

Beirut, Lebanon
April 2024

# AMERICAN UNIVERSITY OF BEIRUT

# THE IMPACT OF IMF LOANS ON THE ECONOMIC GROWTH OF MENA REGION COUNTRIES

by
## MARC ROLAND MERHEB

Approved by:

_____

Dr. Nadine Yamout, Assistant Professor                    Advisor

Department of Economics

_____

Dr. Ali Abboud, Assistant Professor                    Member of Committee

Department of Economics

_____

Dr. Simon Neaime, Professor                    Member of Committee

Department of Economics

Date of thesis defense: April 23, 2024

# ACKNOWLEDGEMENTS

I wish to express my heartfelt appreciation to Prof. Nadine Yamout for her unparalleled influence and guidance throughout the development of this thesis. Her expertise in the fields of research methodologies, econometrics, monetary, and development economics has significantly enhanced the depth of this work. Prof. Yamout's approach, characterized by enthusiasm, patience, meticulousness, professionalism, and dedication, distinguishes her as an advisor who is both exceptional and profoundly inspirational.

Her mentorship transcended conventional academic advising, embedding within me a profound understanding of complex concepts and methodologies. It was her encouragement and strategic insights that facilitated my navigation through challenging research phases. Prof. Yamout's ability to inspire curiosity and dedication have been crucial in my personal and professional growth.

I must also extend my appreciation to two distinguished scholars, Prof. Ali Abboud and Prof. Simon Neaime. Their contributions to my research were of immense value. The insightful feedback and expertise they provided were pivotal in refining my thesis, enhancing its quality and academic contribution.

This thesis stands as a testament to the collective wisdom, guidance, and encouragement of these esteemed mentors.

# ABSTRACT

# OF THE THESIS OF

Marc Roland Merheb      for      Master of Arts

Major: Economics

Title: The Impact of IMF Loans on the Economic Growth of MENA Region Countries

This thesis explores the complex interplay between International Monetary Fund (IMF) interventions and their economic impacts on countries in the Middle East and North Africa (MENA) region. Through an in-depth analysis of several MENA countries that have engaged with the IMF, this research aims to dissect the effects of IMF programs and political stability on economic growth, social welfare, paying close attention to the outcomes of program conditionality.

Employing a methodological approach that integrates descriptive statistics and econometric models like OLS, the study meticulously analyzes macroeconomic variables before and after IMF loan interventions. It also addresses the critical issue of self-selection bias by using polity indices as instrumental variables, ensuring a nuanced understanding of the IMF's impact. The data, sourced from the IMF and the World Economic Outlook database, and PolityV website encompasses a range of economic indicators for seven countries within the MENA region that have received IMF loans.

The thesis contributes to the academic discourse on international finance and economic development by offering evidence-based policy recommendations aimed at enhancing the ef-

fectiveness of future IMF programs in the MENA region. It navigates the complexities of IMF engagements, examining both the benefits and the challenges, and seeks to provide a comprehensive overview of the multifaceted relationship between IMF loans and the socio-economic dynamics within MENA. By doing so, it aspires to guide international financial institutions, governments, and policymakers towards informed decision-making that aligns with long-term development objectives, fostering sustainable growth while minimizing adverse effects. Additionally, it aims to clear up the confusion around whether IMF loans are inherently bad for countries, providing a balanced perspective on their impact.

# TABLE OF CONTENTS

# ILLUSTRATIONS

# CHAPTER 1

# INTRODUCTION

## 1.1 Background and Context

The IMF is a crucial global financial institution that has a long standing history of providing financial assistance and policy advice to countries facing economic challenges, particularly in the Middle East and North Africa region, promoting macroeconomic stability and growth Kruger et al. (2016). This region holds strategic importance due to its vast oil reserves, geopolitical significance, and cultural heritage World Bank (2021). In addition, MENA countries face unique challenges like political instability, socio-economic disparities, and external economic shocks, with diverse economic landscapes, varying from oil revenues to diverse industries. For instance, Gulf Cooperation Council (GCC) countries heavily rely on oil exports, contributing to economic fluctuations due to oil price volatility World Bank (2021). Non oil producing countries face different challenges, emphasizing diversification strategies for sustainable economic growth. Over the years, several MENA countries have sought IMF assistance to address economic imbalances and reform initiatives International Monetary Fund (2021). IMF programs in the region have aimed to address issues such as fiscal deficits, inflation, structural reforms, and external vulnerabilities. These programs often come with conditionalities requiring recipient countries to implement specific economic policies and reforms. The MENA region has been impacted by significant socio-political events, such as the Arab Spring in 2010-2011, which highlighted socio-economic issues like unemployment, inequality, and government dissatisfaction, resulting in a complex political landscape Bazoobandi (2020).

Understanding the implications of IMF interventions in MENA countries is crucial for policy-makers, economists, and scholars. Academic research in this area contributes to the broader discourse on international financial assistance, economic development strategies, and the complexities of implementing reforms in diverse socio-economic contexts. This section provides a foundational understanding of the IMF's role, the economic landscape, socio-political dynamics, and the significance of studying IMF interventions in the MENA region. The subsequent chapters will delve deeper into the implications of IMF loans on economic growth within this context.

## 1.2    Relevance of the Research Problem

In the context of studying the implications of IMF interventions in the MENA region, the relevance of the problem can be outlined as follows: The MENA region faces diverse economic challenges, including fiscal deficits, inflation, unemployment, and vulnerability to external economic shocks. IMF interventions aim to address these challenges by providing financial assistance and policy advice International Monetary Fund (2021). The effectiveness and implications of interventions are crucial for promoting economic stability and sustainable development in the MENA region, as the Arab Spring highlighted socio-economic grievances and dissatisfaction with government policies Makdisi et al. (2022). IMF programs often come with conditionalities that may affect social welfare policies, income distribution, and government spending. The study of IMF interventions' socio-political implications is crucial for evaluating their impact on stability and social cohesion in the MENA region, benefiting policymakers, economists, and international financial institutions. Analyzing the implications of IMF programs on economic growth, income distribution, and social welfare assists in shaping better policy decisions and reform strategies. The study explores the impact of IMF interventions on economic growth, social welfare, and political stability in the MENA region, providing empirical evidence and critical analysis for regional development and global economic governance, contributing to the broader academic discourse on international financial assistance. This knowledge can guide future IMF strategies and policies in the region. Incorporating these aspects into the problem statement enhances the relevance of the research, emphasizing

its significance and the need for a comprehensive analysis of IMF interventions in the MENA region.

## 1.3 Objective of the Study

The objectives of a study on the implications of IMF interventions in the MENA region are diverse and encompass several key areas. The study looks at how IMF programs affect MENA nations' GDP growth, inflation, fiscal deficits, and balance of payments, among other economic variables. The socioeconomic effects of these interventions are also examined, including income inequality, rates of poverty, accessibility to social services, and job prospects. It also looks at the conditions imposed on IMF loans and how they affect the reform of policies. The study also seeks to evaluate the impact of IMF programs on political stability, social unrest, and governance structures, particularly considering events like the Arab Spring and their connection with IMF interventions Kaminsky and Reinhart (2000); World Bank (2016). Moreover, a comparative analysis between different MENA countries will be conducted, examining variations in the outcomes of IMF interventions based on country specific economic structures, geopolitical factors, and policy responses Ozturk (2011); Rustomjee et al. (2022). Finally, evidence based policy recommendations will be formulated for international financial institutions, national governments, and policymakers to enhance the effectiveness of future IMF programs in the MENA region Krugman (1988); Birdsall (2006). Additionally, this research may involve contextualizing historical elements, identifying challenges, and suggesting potential solutions that are pertinent to the economic and social development of the region.

## 1.4 Aim of the Study

The study examines the effects of International Monetary Fund (IMF) interventions on the Middle East and North Africa, focusing on economic indicators like GDP growth, inflation, fiscal deficits, and balance of payments, as well as social and socioeconomic repercussions like income distribution and poverty rates. It also investigates the conditionalities attached to IMF loans and how these conditions shape policy reforms in the MENA region. The study also

examines the wider political and social implications of IMF programs, particularly considering events like the Arab Spring. The research analyzes IMF interventions in MENA countries to identify differences and factors causing divergent results, aiming to provide evidence based policy recommendations for informed decision making and potential enhancement of future IMF interventions.

## 1.5   Significance and Justification

The significance and justification of exploring the implications of IMF loans in the context of economic development, policymaking, and academia hold substantial importance. The academic significance lies in contributing to the existing body of research on international finance and economic development. Understanding the implications of IMF interventions in the Middle East and North Africa (MENA) region enriches scholarly discussions and provides empirical evidence for economic theories International Monetary Fund (2023). Furthermore, it offers an opportunity for researchers to explore multifaceted dimensions of IMF interventions, providing insights that can guide future studies in the field. From a policy making standpoint, comprehending the impacts of IMF loans is crucial for governments and international financial institutions. Analyzing both positive and negative effects Alesina (1998) of these interventions helps policymakers make informed decisions about participating in IMF programs, shaping the terms of engagement, and tailoring policies that align with their country's long term development goals. Policymakers rely on such analyses to assess the trade offs involved and make decisions that prioritize national interests while balancing the conditionalities imposed by international financial institutions. Economically, understanding the implications of IMF loans is pivotal for countries, especially those in the MENA region. By comprehensively evaluating the impacts of IMF interventions, nations can learn from past experiences, optimize the benefits, and mitigate the challenges associated with participating in IMF programs. This understanding aids in formulating effective economic policies, fostering sustainable growth, and minimizing potential adverse effects International Monetary Fund (2023). In summary, the significance and justification of studying the implications of IMF loans in the MENA region lie in its academic contribution to economic literature, guiding policy making decisions, and

enhancing economic development by providing nuanced insights into the multifaceted impacts of IMF interventions Alesina (1998); International Monetary Fund (2023).

### 1.5.1 *What makes this study different?*

This study stands apart from previous research as it exclusively focuses on the MENA region. Comprehensive studies on this area have been scarce, primarily due to the limited availability of data. Despite these challenges, the decision to address this topic was driven by the unique characteristics of the MENA region. The MENA region exhibits unique characteristics that distinguish it from other global regions. The confluence of these attributes not only shapes the region's internal dynamics but also its interactions on the world stage.

1. Energy Resources:

   The MENA region is famously rich in energy resources, as it includes some of the world's top oil producers, notably Saudi Arabia, Iraq, the UAE, and Iran, with Saudi Arabia being the largest exporter globally. These countries collectively hold a significant share of the world's oil reserves, with Saudi Arabia alone accounting for around 17%. Despite challenges such as sanctions on Iran, the MENA OPEC members still control about 40% of global crude oil production. This abundance of oil and natural gas has granted the region significant strategic economic advantage and geopolitical leverage. The wealth generated from these resources has driven the development agendas of many MENA countries, influencing their political structures and economic policies. However, reliance on these resources also presents challenges, such as economic diversification and vulnerability to global oil price fluctuations.

2. Geopolitical Importance: MENA's geopolitical significance is intricately linked to its energy resources but extends beyond them. The region's strategic location as a crossroads of continents makes it central to global trade routes and international politics. This importance attracts attention and involvement from superpowers, often resulting in a complex geopolitical environment where local politics intersect with global interests.

3. Economic Diversity: The MENA region, while known for its energy exports, exhibits significant economic diversity. Some countries within the region are actively pursuing economic diversification, channeling efforts into expanding sectors such as tourism, finance, and technology to reduce their reliance on oil. This shift is part of a strategic vision to create more stable and sustainable economies. Conversely, there are countries in the MENA region where agriculture and small-scale manufacturing forming a significant part of some countries' GDP. This economic diversity leads to a wide array of development levels and economic stability across the region.

4. Political Complexity: The political landscape in the MENA region is marked by complexity, with systems ranging from absolute monarchies to fragile democracies. Historical legacies, religious influences, and external interventions have all shaped the political institutions of MENA countries, resulting in diverse governance models. This complexity can lead to varying degrees of political stability, affecting everything from social policies to foreign investment.

5. Security Issues: The region faces significant security challenges, including armed conflicts, terrorism, and political unrest. These issues are often interlinked with the geopolitical importance of the region, as external powers engage in regional affairs. Security concerns can have a profound impact on social and economic development, often leading to humanitarian crises and impacting global energy markets.

6. Social and Demographic Challenges: MENA countries are dealing with significant social and demographic challenges, such as high youth unemployment, gender inequality, and population growth. These factors can contribute to social unrest and economic strain, compelling governments to seek solutions that balance tradition and modernization.

The interplay among these characteristics is complex. The wealth from energy resources can lead to significant socio-economic development, but it also presents the challenge of ensuring that this wealth is distributed equitably, which is critical for addressing social and demographic challenges. Geopolitical importance and political complexity often exacerbate security issues, as external interests and internal governance struggles can lead to conflict and instability. Economic diversity offers a path to mitigate the over-reliance on energy resources and can help address unemployment and other demographic issues, but it requires stable and secure political conditions to thrive.

In sum, the MENA region's unique characteristics are deeply interconnected, with each factor influencing and being influenced by the others shaping the region's unique character.

# Chapter 2

# Literature Review

## 2.1 Overview of the Impact of IMF Loans on Economic Growth in the MENA Region

The impact of IMF loan conditions in the MENA region is a complex and context dependent phenomenon, with diverse consequences for economic and social development. Structural reforms implemented by IMF countries often lead to an average increase in annual GDP growth Reinsdorf (2020), but can initially result in short term contractions, especially in countries implementing austerity measures as part of their IMF programs Stiglitz (2002); Hauner et al. (2013). IMF programs commonly target the reduction of inflation rates, leading to significant outcomes within a relatively short period. For instance, within three years of implementing IMF programs in the MENA region, countries have demonstrated an average decrease in inflation rates from 8% to 4% Harrigan and El-Said (2010). This reduction in inflation rates, because of IMF programs, underscores their potential impact on stabilizing economic indicators, which is crucial to understanding the implications of IMF loans on economic growth in the MENA region International Monetary Fund (2023). However, adherence to IMF exchange rate policies may result in overvalued domestic currencies, negatively impacting export competitiveness and causing a decrease in exports by an average of 10% Di Bella et al. (2007). The impact of IMF loan conditions on income inequality is complex and varies across countries, reflecting the diverse nature of the MENA region. IMF programs aim to reduce budget

deficits, often leading to reduced public spending in social services. Some countries have experienced an increase in income inequality following IMF program implementation, while others have seen successful economic reforms leading to reduced income inequality Alesina (1998); Dabla-Norris et al. (2015). Countries that implemented IMF recommended economic reforms experienced a 15% increase in Foreign Direct Investments (FDI) inflows over five years Roy and Almeida Ramos (2012). However, the impact of IMF loan conditions on FDI is not uniform across all MENA countries, as it can be influenced by political stability, security conditions, and business environment. Finally, IMF loan conditions in the MENA region can lead to social unrest, particularly when austerity measures are imposed. The Arab Spring uprisings in 2010-2011 illustrate this, with several countries experiencing social unrest due to economic hardships and government austerity measures. Understanding these dynamics requires a nuanced analysis of each country's circumstances.

## 2.2  Previous Research on IMF Loans and Economic Growth in MENA

Previous research shows the complex relationship between IMF loans and economic growth in the Middle East and North Africa. Reinsdorf (2020) indicates that MENA countries implementing IMF recommended structural reforms have an average 2.5% increase in annual GDP growth, indicating that over time, IMF supported reforms can positively impact economic performance. However, Stiglitz's critical examination (2002) challenges this positive outlook by emphasizing the potential short term challenges associated with IMF loans Stiglitz (2002). Stiglitz points to the strict fiscal and monetary policies often attached to these loans, arguing that they can lead to short term economic contractions. Mossallem (2015) reinforce this viewpoint by revealing that countries in the MENA region implementing austerity measures as part of IMF programs experienced an initial decline in economic growth Mossallam (2015). This suggests that the short term impacts of IMF loans can be challenging and may vary across countries. Additionally, the International Monetary Fund (2020a,b) assessment suggests that MENA countries can achieve lower inflation rates quickly, a sign of macroeconomic stability and a conducive environment for sustained economic growth, as indicated by IMF

16

programs. However, the complexity of the relationship between IMF loans and economic growth becomes evident when examining Di Bella et al. (2007), which demonstrates a potential trade off. While lower inflation is beneficial, adherence to IMF exchange rate policies can result in overvalued domestic currencies, subsequently affecting export competitiveness. MENA countries following such exchange rate policies experienced an average 10% decrease in exports, indicating a challenging aspect of IMF conditions. The distributional impact of IMF loans is also a topic of significant concern. Nafie (2021) highlights that in some cases, IMF programs in MENA countries have led to an increase in income inequality, emphasizing the social consequences of such programs. On the other hand, Dabla-Norris et al. (2015) suggest that there may be instances where IMF supported reforms reduce income inequality. This variation underscores the context specific nature of the relationship between IMF loans and social equity. Moreover, studies emphasize the impact of IMF programs on fiscal policies, showing reductions in fiscal deficits, indicating the role of IMF conditions in achieving fiscal consolidation Lane and Milesi-Ferretti (2017). On the other hand, Bernal-Verdugo et al. (2012) reveals the potential effects on labor markets, where labor market flexibility, often promoted by IMF programs, could lead to a decline in unemployment in some countries. The examination of IMF programs on education and health spending shows that such programs can result in reduced government spending in these critical sectors, potentially affecting human capital development Baldacci et al. (2008). In addition, political factors play a significant role in shaping the outcomes of IMF programs in the MENA region, underscoring that political considerations, governance, and institutions can significantly influence the effectiveness and acceptance of IMF programs Van Houtven (2002); Woods and Lombardi (2006). The impact of IMF loans on economic growth in the MENA region is complex and context specific. Political and social factors also influence outcomes. A comprehensive analysis of this relationship requires considering economic, social, political, and institutional dynamics.

## 2.3 Theoretical Frameworks - Dependency Theory

Dependency theory, also known as dependency analysis, is a framework in international relations and economics that explains the intricate relationships between developed and develop-

ing countries. It suggests that underdevelopment in certain countries is linked to their economic and political dependency on powerful nations. The core typically wields authority over advanced technology, capital, and global markets, while the periphery predominantly serves as a source of raw materials, inexpensive labor, and markets for the goods and investments of core nations Wallerstein (1974). This fundamental distinction elucidates the dynamics of economic relationships among nations. A fundamental concept within dependency theory is the idea of "unequal exchange." This concept contends that developing nations tend to receive less value for their exports than they expend on imported goods from developed nations. This phenomenon has been rigorously explored in the context of the international trade system, with studies such as Prebisch (1950) shedding light on its adverse implications for the economic advancement of periphery nations. Moreover, dependency theory underscores the role of multinational corporations (MNCs) in perpetuating global inequalities. These corporations, primarily headquartered in core countries, tend to exploit the resources and labor available in periphery nations. Cardoso (1972); Frank (1967) have highlighted the exploitative nature of foreign investments and MNC operations in developing countries, describing this as neocolonialism. Dependency theory also critiques Structural Adjustment Programs (SAPs) imposed by international financial institutions like the IMF and World Bank. Gatwiri et al. (2020) argue that SAPs have perpetuated dependency by enforcing neoliberal policies that prioritize market oriented reforms over social development in developing countries. Furthermore, dependency theory advocates for developing countries to pursue economic self reliance and reduce their dependence on external sources, as advocated by scholars such as Nkrumah (1965). This perspective encourages nations to diversify their economies, promote import substitution industrialization (ISI), and reduce reliance on primary commodity exports. Incorporating these foundational elements into the literature review concerning the impact of IMF loans on economic growth in the MENA region, dependency theory emerges as a critical lens through which to assess the implications of financial assistance and the conditions associated with such aid. This theoretical framework underscores the potential for perpetuating economic dependence, unequal exchange, and neocolonial dynamics in the context of IMF programs, while also highlighting the complex trade offs between achieving short term

18

financial stability and striving for long term economic self reliance in developing nations.

## 2.4  Neoliberalism

Neoliberalism, an influential economic and political ideology, promotes free market capitalism, deregulation, and individualism, aiming to enhance economic efficiency and innovation through core principles, significantly impacting the global economic and political landscape. At its core, neoliberalism champions market deregulation, which involves reducing government involvement in economic activities to allow market forces to function with greater autonomy. In that respect, Caldwell (2011) argues the stimulation of innovation and economic dynamism by unfettered markets via bureaucratic barrier elimination as stated by Hayek (1944). Neoliberalism also advocates for privatization, transferring state owned enterprises and services to the private sector which increases efficiency and reduces government financial burden Friedman (2016). Fiscal austerity stands as another critical tenet of neoliberalism, underscoring the importance of fiscal restraint. Governments are encouraged to curtail public spending and minimize budget deficits Reinhart and Rogoff (2009). Neoliberalism strongly supports trade liberalization through mechanisms like free trade agreements and the removal of trade barriers. Accordingly, Bhagwati (2004) contends that trade liberalization fosters economic growth by broadening market access and enhancing competition. In alignment with its philosophy, neoliberalism places a premium on individualism, highlighting personal responsibility and the minimization of state where the significance of individual rights and limited government intervention is articulated Nozick and Nagel (1974). Moreover, neoliberalism has led to the phenomenon of financialization, whereby financial markets and services occupy a central role in economies, shedding light on how finance has become a defining aspect of contemporary capitalism Harvey (2005). Despite its adherents extolling the virtues of neoliberalism, critics contend that it can exacerbate income inequality. Piketty (2014); Stiglitz (2012) scrutinize the unequal distribution of wealth in neoliberal economies, voicing concerns about its societal repercussions. Neoliberalism is closely intertwined with globalization, emphasizing open markets and international economic integration with complexities and challenges associated with reconciling globalization with democratic governance Rodrik (2011). Understanding the

fundamental tenets and implications of neoliberalism is crucial for evaluating economic policies and their far reaching impacts, given its substantial influence on government policies, international trade agreements, and wealth distribution across diverse regions globally.

## 2.5   Conditionality and Policy Reform

Conditionality and policy reform are integral components of international financial institutions' (IFIs) assistance programs, particularly those administered by the International Monetary Fund (IMF). These programs are devised to address economic challenges in recipient countries but come with specific conditions and policy prerequisites. Conditionality encompasses the conditions and requirements imposed by IFIs, serving as prerequisites for receiving financial assistance. These conditions primarily aim to achieve economic stability and address underlying structural issues Radelet and Sachs (1999), emphasizing the necessity of implementing policies conducive to sustainable economic recovery. An inherent aspect of conditionality involves recipient countries adhering to specific macroeconomic policy reforms. These reforms encompass fiscal consolidation, adjustments in monetary policy, and exchange rate stabilization, frequently included in IMF programs to reinstate macroeconomic stability Eichengreen (1998). Beyond macroeconomic policies, conditionality frequently extends to structural reforms, which span areas like labor market liberalization, privatization, and trade liberalization. Stiglitz (2002) critically examines the repercussions of such structural reforms on developing countries, highlighting potential adverse social consequences. Governance and institutional reforms also feature prominently in conditionality requirements. These reforms are designed to combat corruption and enhance public administration Reinikka and Svensson (2006). To mitigate the potential adverse effects of economic reforms on vulnerable populations, conditionality may encompass the establishment of social safety nets. Barrientos (2008) stress the significance of social protection programs in the context of IMF supported initiatives. A crucial element of conditionality is the process of monitoring and evaluation, ensuring compliance with the agreed upon conditions. This involves regular assessments of a country's progress in implementing the required reforms Dreher (2009). An essential consideration in crafting conditionality is the principle of ownership, emphasizing the need to tailor reforms to

the specific needs and circumstances of the recipient country. Bird and Rowlands (2003) delve into the concept of ownership in the context of aid programs. The efficacy of conditionality and policy reforms in achieving their intended objectives has generated extensive debate. Stiglitz (2002) contends that conditionality can result in social and economic hardships in recipient countries and may not consistently deliver the desired outcomes. Examining the impact of IMF loans on economic growth in the MENA region is imperative for evaluating the conditions linked to such loans and their ramifications for policy reform. Understanding the role of conditionality and its potential effects on economic growth and development is pivotal for a comprehensive analysis of the subject.

## 2.6   Impact on Economic Growth:

The impact of International Monetary Fund (IMF) programs on economic growth has been extortionate, with studies providing unique perspectives and methodological approaches to provide a holistic view of the consequences of IMF involvement. Przeworski and Vreeland (2000) focus on the various aspects of IMF assistance and its potential impact on recipient countries' economic development. Dreher (2006) extends beyond a singular focus on IMF programs to scrutinize the broader spectrum of IMF engagement. This study explores the IMF's impact on economic growth through programs, loans, and compliance with conditionality, using a multifaceted approach to gain a comprehensive understanding of its multifaceted role. Fidrmuc and Kostagianni (2015) revisit the impact of IMF assistance on economic growth, reevaluating whether IMF programs improve economic performance in a contemporary context, considering economic growth dynamics and IMF involvement. This study investigates the correlation between the International Monetary Fund (IMF) and economic growth in the MENA region, analyzing key findings, methodologies, data sources, and variables for a comprehensive evaluation with the analysis considering potential limitations and debates within existing research, contributing to a nuanced understanding of the implications of IMF involvement since previous literature on the MENA region is still limited and that this is your main contribution.

## 2.7 Compliance with Conditionality:

Compliance with conditionality represents a critical theme in international economics, with a specific focus on its effects on economic growth in transition economies Mercer-Blackman and Unigovskaya (2004); Dreher (2006). To enrich this discussion, it is essential to incorporate other notable references that have contributed to the understanding of this complex subject. One such reference is Berg and Sachs (1988), whose work on the economic transformation in Eastern Europe sheds light on the challenges faced by transition economies. Furthermore, Williamson (1985) influential research on the Washington Consensus, a set of policy recommendations that included conditionality measures, offers valuable insights into the historical context of these economic policies. The IMF's program indicators significantly influence economic outcomes, with Stiglitz (2002) highlighting the potential drawbacks of a one size fits all approach to conditionality, which is crucial for developing and transitioning economies. Reinforcing this perspective, Birdsall (2006) explored the complexities of conditionality, emphasizing the importance of tailoring these measures to the specific needs and circumstances of each country. These references collectively underscore the intricate interplay between conditionality and economic growth. In this broader context, compliance with conditionality is not a straightforward issue. While adherence to IMF program indicators can potentially pave the way for access to international financial support, other scholars like Rodrik (2011) have cautioned against the risks of "policy conditionalities" arguing that they may undermine a nation's ability to design and implement policies that are in their best interest. Moreover, Hemming et al. (2002) has critiqued the effectiveness of IMF policies, emphasizing that a myopic focus on short term stabilization may neglect the long term development needs of transition economies. These diverse perspectives emphasize the need for a balanced approach in assessing the challenges and benefits associated with meeting IMF program indicators. Conditionality compliance is a complex issue that depends on a country's economic context, institutional capacity, and policy adaptation. A comprehensive understanding of the complexities surrounding conditionality and its impact on transition economies can be gained by incorporating various references and citations.

## 2.8 Impact on Poverty and Inequality:

Contemporary and crucial exploration within the field of international economics explicates a particular focus on the impacts of IMF loan conditions on poverty in the developing world Biglaiser and McGauvran (2022). This section accordingly serves as a valuable opportunity to delve into the profound social consequences of IMF conditions, a facet that extends beyond economic growth and stability, incorporating references and studies that enrich the discussion. Dreher and Fuchs (2015); Kentikelenis et al. (2016) have examined the broader social implications of IMF programs, shedding light on the trade offs involved in pursuing economic stability and growth. This body of work emphasizes that while IMF conditions may contribute to short term economic stability, they can also exacerbate poverty and income inequality. Birdsall et al. (2010) explore the impact of conditionality on social welfare policies, highlighting how these measures can hinder governments' investment in critical social programs, affecting vulnerable populations.

## 2.9 Regional and Country-Specific Analysis:

Ozturk (2011) offers a regional lens through which to evaluate the macroeconomic effects of IMF programs, with a specific focus on countries in the Middle East and North Africa (MENA). Meanwhile, Rustomjee et al. (2022) delve into the dynamics of IMF engagement with small developing states, exploring its implications for economic growth. This presents the significance of considering regional and country specific factors when assessing the consequences of IMF loans, incorporating additional references and studies to enrich the discussion. Ozturk's regional perspective allows us to appreciate that the impact of IMF programs is not uniform across diverse economic and geopolitical contexts. MENA countries have unique economic, political, and social dynamics that shape the consequences of IMF engagement. Therefore, the success and challenges of these programs may vary significantly in this specific region compared to others. Similarly, research on small developing states emphasizes that the effects of IMF involvement can be distinct for countries with limited economic capacity, which often face distinct challenges in terms of growth and development. Small states need

tailored approaches to sustainable economic growth, as they are more vulnerable to external shocks. The impact of IMF programs should be evaluated considering the unique characteristics, challenges, and opportunities of each region and country. This understanding helps policymakers and researchers make informed decisions about the appropriateness of IMF programs for different regions and states, promoting more effective and sustainable economic development.

## 2.10  Political and Social Dimensions:

Azedi and Schofer (2023) provide a valuable assessment of the Anti Globalization Movement, which often involves protests influential organizations like the International Monetary Fund (IMF). Concurrently, Hajarnavis et al. (2023) delve into the success of IMF loan programs. This offers an opportunity to delve into the extensive political and social dimensions of IMF engagement, specifically focusing on public perception and responses to IMF programs, while incorporating other references and studies to enrich the discussion. The Anti Globalization Movement represents a crucial political and social dimension in understanding public sentiment towards international financial institutions like the IMF. This movement typically emphasizes concerns about the perceived negative impacts of globalization and the policies promoted by organizations such as the IMF. Protests and opposition to the IMF often center around issues like income inequality, social injustice, and economic austerity measures imposed as part of IMF loan conditions. Public perception of these matters can significantly influence political decisions and policymaking, highlighting the importance of examining the broader social and political implications of IMF engagement. On the other hand, further investigation into the success of IMF loan programs complements the discussion by shedding light on the economic and financial outcomes of these initiatives. Research helps in understanding the effectiveness of IMF policies from an economic standpoint. However, it is important to emphasize that economic success or failure often intertwines with political and social dimensions. Public opinion and government responses to IMF programs can affect their ultimate success or failure. The implementation of IMF programs requires a comprehensive understanding of the political climate and social dynamics. Kaminsky and Reinhart (2000)

highlight the interplay between IMF engagement, public perception, and economic outcomes. Policymakers must consider not only the economic feasibility of IMF programs but also the broader political and social ramifications, as public sentiment can significantly influence their success or failure.

# Chapter 3

# Data And Methodology

This thesis will utilize time series data for eight countries in the MENA region, namely: Algeria, Egypt, Jordan, Morocco, Tunisia, Turkey, Yemen, and Iraq spanning from 1980 to 2023. Beyond the descriptive statistics, the analysis will be divided into two distinct parts. The first part will conduct a general analysis that includes seven out of the eight original countries -excluding Iraq due to the lack of data available- providing a broad overview of regional trends and impacts. The second part will undertake a detailed, country-by-country analysis that includes all 7 nations included in the General MENA Analysis except for Yemen. Yemen is excluded from this detailed analysis due to the lack of significant data on its own, which limits the ability to draw reliable country-specific conclusions.

The data was collected from three different sources.

From the IMF MONA database the start and end years of the loans were collected and used to create the "loan dummy" variable which is a binary variable that represents whether a country has taken a loan from the IMF in any given year. It take the value of 1 if the country received a loan and 0 otherwise. From the same database the loan amounts labeled as "total access" were extracted. This variable measure the extent of resources or funding available from the IMF.

GDP per Capita, total investment and savings, inflation, imports and exports, unemployment rates, and current account balances are the main macroeconomic variables considered in this study and were gathered from the World Economic Outlook databse (WEO).

The data on democracy are obtained from the PolityV website.

The variable takes values between -10 and 10, indicating autocracy and consolidated democracy, respectively Fidrmuc and Kostagianni (2015)

In order to accurately capture the effects of IMF loans on the macroeconomic indicators, this study applies a one-year lag to both the 'loan dummy' and 'total access' variables. This approach allows us to assess the impact of the loans with a temporal delay, acknowledging that the effects of financial interventions may not be immediate. By lagging these variables, we account for the time it might take for the disbursed funds to influence the economy and for policy decisions taken as a result of the loans to be implemented.

To analyze the data, for each dependent variable four main regression models are considered, each incorporating different sets of independent variables.

**Model 1** exclusively considers the 'Loan Dummy' variable.

$$y = L.LoanDummy.\beta_1 + cte$$

**Model 2** exclusively considers 'Total Access".

$$y = L.TotalAccess.\beta_1 + cte$$

**Model 3** incorporates both 'Loan Dummy' and 'Total Access'.

$$y = L.TotalAccess.\beta_1 + L.TotalAcess.\beta_2 + cte$$

**Model 4** is an inclusive model that considers all variables listed above.

$$y = L.LoanDummy.\beta_1 + L.TotalAcess.\beta_2 + TotalInvestment.\beta_3 + GrossNationalSaving.\beta_4$$
$$+ Inflation.\beta_5 + Imports.\beta_6 + Exports.\beta_7 + Unemployment.\beta_8 + GrossRevenue.\beta_9$$
$$+ CurrentAccount.\beta_{10} + PolityIndex.\beta_{11} + cte$$

**Note: y** is taken as any of the 5 most relevant economic indicator, namely: GDP Per Capita, Total Investment, Gross National Revenue, Current Account, Inflation.

# Chapter 4

# Results

## 4.1 Descriptive Statistics

### 4.1.1 *IMF Loans by Country: Year and Amounts*

| Row Labels | 1994 | 1995 | 1996 | 1997 | 1999 | 2002 | 2005 | 2007 | 2010 | 2012 | 2013 | 2014 | 2016 | 2018 | 2020 | 2022 | 2023 | Grand Total | %of total | Sum of Loan | Average Loan | Max Loan |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Turkey | 610.50 | | | | 15038.40 | | 6662.04 | | | | | | | | | | | 22310.94 | 32% | 3 | 7436.98 | 15038.40 |
| Morocco | | | | | | | | | 4117.40 | | | 3235.10 | 2504.00 | 2150.80 | | | 3726.20 | 15733.50 | 23% | 5 | 3146.70 | 4117.40 |
| Egypt | | | | | | | | | | | | | 8596.57 | | 3763.64 | 2350.17 | | 14710.38 | 21% | 3 | 4903.46 | 8596.57 |
| Iraq | | | | | | | 475.36 | 475.36 | 2376.80 | | | | 3831.00 | | | | | 7158.52 | 10% | 4 | 1789.63 | 3831.00 |
| Tunisia | | | | | | | | | | | 1146.00 | | 2045.63 | | | | | 3191.63 | 5% | 2 | 1595.81 | 2045.63 |
| Jordan | 189.30 | | | | | 85.28 | | | | 1364.00 | | | 514.65 | | 926.37 | | | 3079.60 | 4% | 5 | 615.92 | 1364.00 |
| Algeria | 457.20 | 1169.28 | | | | | | | | | | | | | | | | 1626.48 | 2% | 2 | 813.24 | 1169.28 |
| Yemen | | | 132.40 | 264.75 | | | | | 243.50 | | | 365.25 | | | | | | 1005.90 | 1% | 4 | 251.48 | 365.25 |
| Sum | 1257.00 | 1169.28 | 132.40 | 264.75 | 15038.40 | 85.28 | 7137.40 | 475.36 | 2620.30 | 5481.40 | 1146.00 | 3600.35 | 17491.85 | 2150.80 | 4690.01 | 2350.17 | 3726.20 | 68816.95 | 100% | 28 | | |

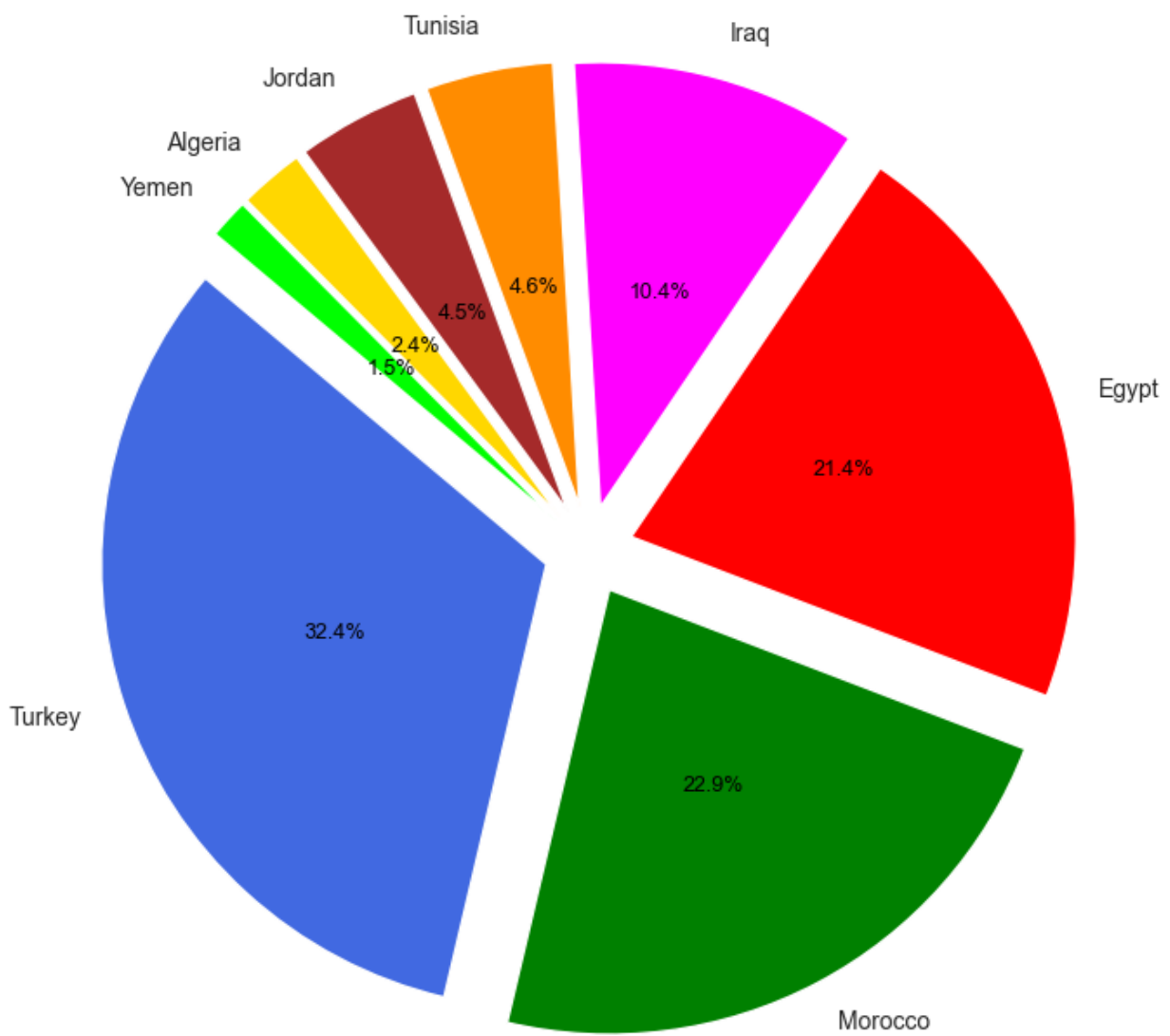Figure 4.1: IMF Loans by Country: Year and Amounts

Figure 4.2: Visual representation of the loans distribution

### 4.1.2 *Economic Indicators of MENA Countries*

| Country | Average of GDP Growth | Average of GDP Per Capita Growth | Average of Unemployment | Average of Inflation | Average of Polity Index | Average of Total Investment as % of GDP |
|---|---|---|---|---|---|---|
| Algeria | 2.35 | -0.13 | 21.52 | 12.80 | -6.00 | 28.40 |
| Egypt | 4.80 | 2.43 | 9.25 | 13.66 | -6.00 | 23.72 |
| Iraq | 10.21 | 0.00 | | | -9.00 | |
| Jordan | 3.43 | -0.45 | 12.94 | 5.79 | -5.48 | 34.99 |
| Morocco | 3.51 | 1.58 | 14.93 | 5.83 | -7.43 | 23.46 |
| Tunisia | 4.24 | 2.15 | 16.10 | 6.59 | -5.52 | 28.01 |
| Turkey | 4.51 | 2.66 | 7.43 | 63.80 | 5.86 | 23.20 |
| Yemen | 5.67 | 2.17 | | 36.69 | -1.45 | 19.50 |
| **Average all** | **4.84** | **1.30** | **13.70** | **20.74** | **-4.38** | **25.90** |

Figure 4.3: Economic Indicators of MENA Countries (1980-2000, Inclusive)

| Country | Average of GDP Growth | Average of GDP Per Capita Growth | Average of Unemployment | Average of Inflation | Average of Polity Index | Average of Total Investment as % of GDP |
|---|---|---|---|---|---|---|
| Algeria | 2.87 | 1.05 | 13.96 | 4.58 | 1.17 | 39.00 |
| Egypt | 4.32 | 2.05 | 10.28 | 10.27 | -3.94 | 19.23 |
| Iraq | 8.98 | 4.25 | | 8.44 | 2.18 | |
| Jordan | 4.01 | 0.90 | 15.55 | 3.15 | -2.67 | 27.13 |
| Morocco | 3.73 | 2.52 | 10.35 | 1.81 | -5.11 | 29.67 |
| Tunisia | 2.52 | 1.49 | 14.86 | 4.75 | 0.61 | 22.13 |
| Turkey | 4.93 | 3.62 | 10.32 | 18.68 | 5.06 | 27.75 |
| Yemen | -0.51 | -3.15 | | 16.21 | -0.89 | 10.60 |
| **Avg all** | **3.85** | **1.59** | **12.55** | **8.49** | **-0.45** | **25.07** |

Figure 4.4: Economic Indicators of MENA Countries (2001-2023, Inclusive)

| Country | Average of GDP Growth | Average of GDP Per Capita Growth | Average of Unemployment | Average of Inflation | Average of Polity Index | Average of Total Investment as % of GDP |
|---|---|---|---|---|---|---|
| Algeria | 2.18 | 0.24 | 10.78 | 5.25 | 2.00 | 42.47 |
| Egypt | 4.18 | 1.82 | 10.27 | 12.26 | -3.45 | 18.41 |
| Iraq | 4.78 | 2.13 | | 2.45 | 4.67 | |
| Jordan | 2.67 | -0.48 | 16.09 | 3.11 | -3.00 | 25.06 |
| Morocco | 3.14 | 2.00 | 10.03 | 1.84 | -4.55 | 31.44 |
| Tunisia | 1.65 | 0.56 | 15.37 | 5.54 | 3.45 | 21.13 |
| Turkey | 4.75 | 3.45 | 10.83 | 16.86 | 3.82 | 29.19 |
| Yemen | -2.45 | -5.00 | | 18.54 | -0.18 | 7.04 |
| **Avg all** | **2.61** | **0.59** | **12.23** | **8.23** | **0.34** | **24.96** |

Figure 4.5: Economic Indicators of MENA Countries - Last 15 years (2008-2023, Inclusive)

| Country | Average of GDP Growth | Average of GDP Per Capita Growth | Average of Unemployment | Average of Inflation | Average of Polity Index | Average of Total Investment as % of GDP |
|---|---|---|---|---|---|---|
| Algeria | 2.18 | 0.24 | 10.78 | 5.25 | 2.00 | 42.47 |
| Egypt | 4.18 | 1.82 | 10.27 | 12.26 | -3.45 | 18.41 |
| Iraq | 4.78 | 2.13 | | 2.45 | 4.67 | |
| Jordan | 2.67 | -0.48 | 16.09 | 3.11 | -3.00 | 25.06 |
| Morocco | 3.14 | 2.00 | 10.03 | 1.84 | -4.55 | 31.44 |
| Tunisia | 1.65 | 0.56 | 15.37 | 5.54 | 3.45 | 21.13 |
| Turkey | 4.75 | 3.45 | 10.83 | 16.86 | 3.82 | 29.19 |
| Yemen | -2.45 | -5.00 | | 18.54 | -0.18 | 7.04 |
| **Avg all** | **2.61** | **0.59** | **12.23** | **8.23** | **0.34** | **24.96** |

Figure 4.6: Economic Indicators of MENA Countries - Last 10 years (2013-2023, Inclusive)

Figure 4.7: Time series Graphs for Algeria
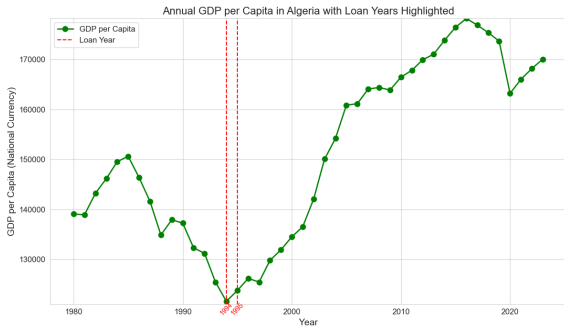


(a)
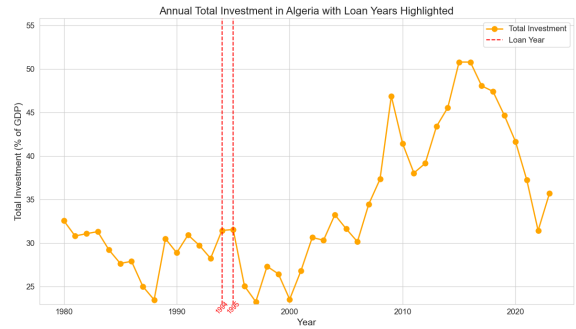


(b)



(c)
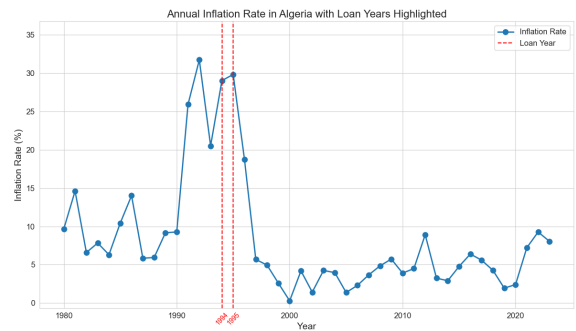


(d)
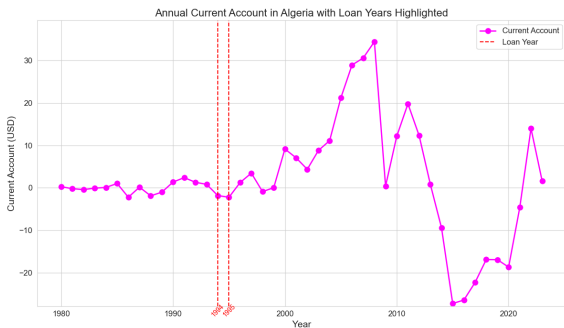


(e)
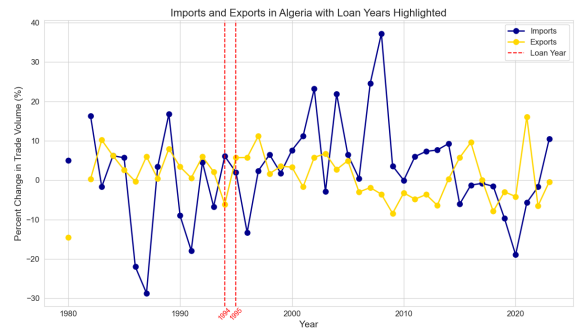


(f)

Figure 4.8: Time Series Graphs for Egypt
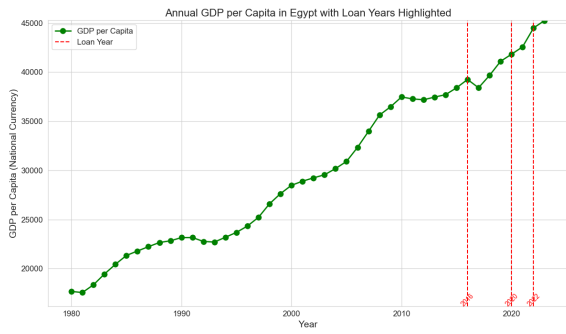
(a)
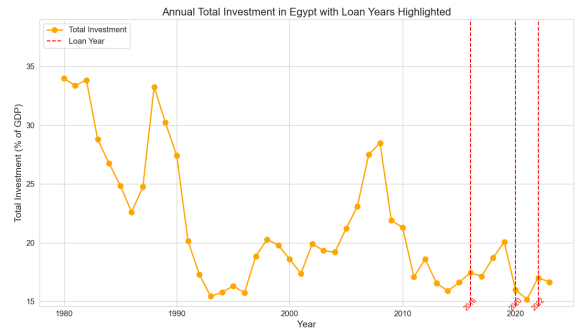
(b)
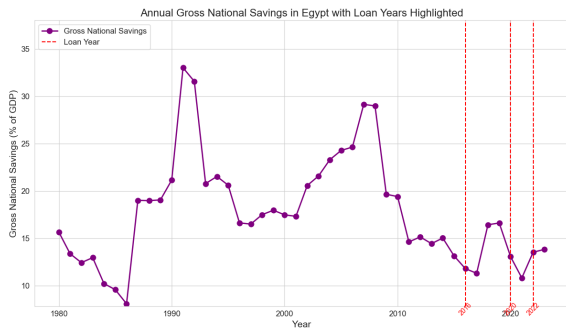
(c)
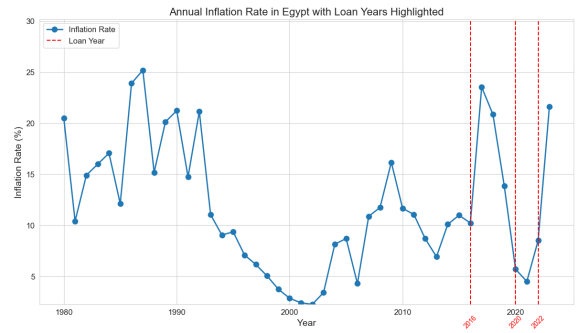
(d)
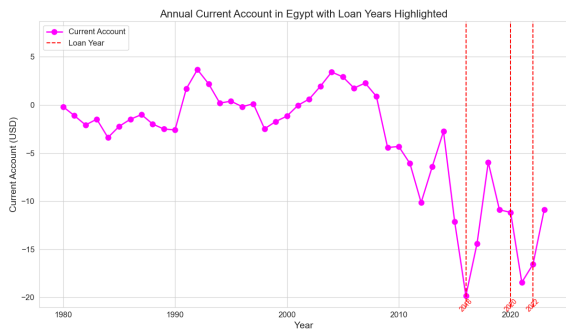
(e)
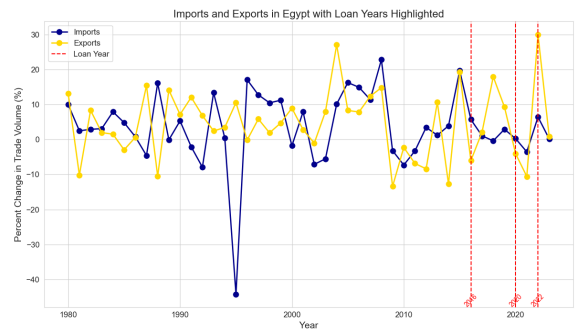
(f)

# Figure 4.9: Time Series Graphs for Jordan
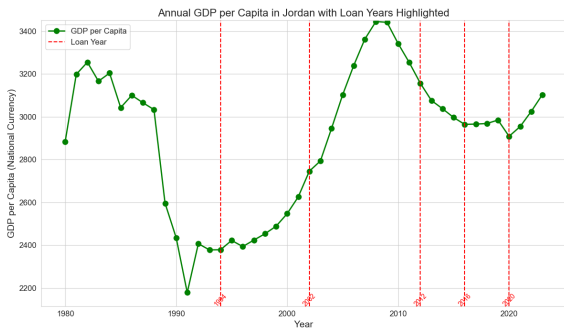


(a)
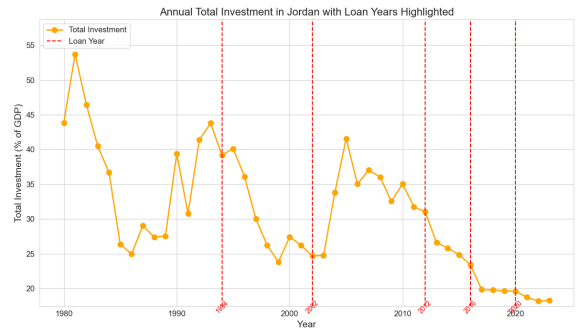
(b)
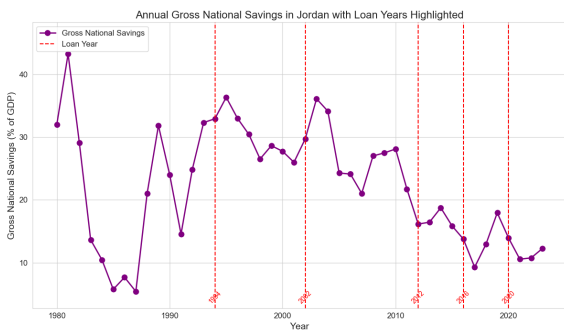
(c)
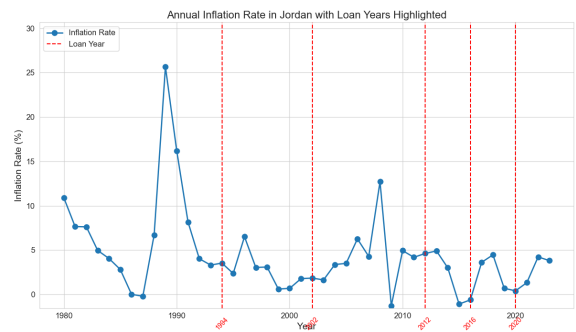
(d)
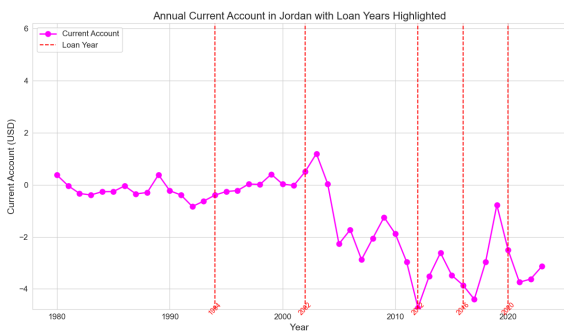
(e)
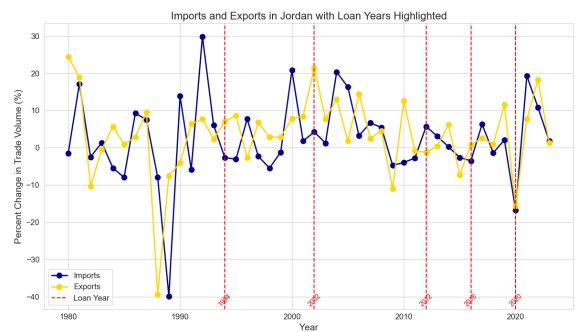
(f)

Figure 4.10: Time Series Graphs for Morocco
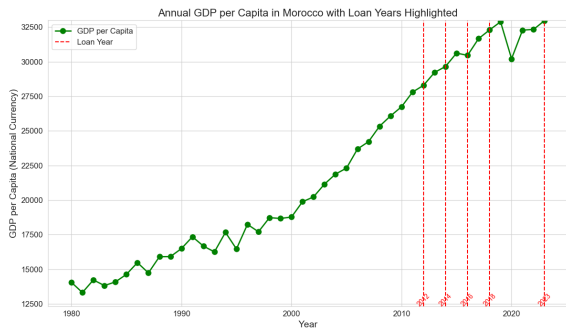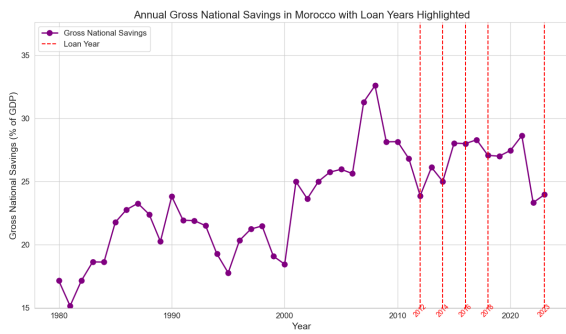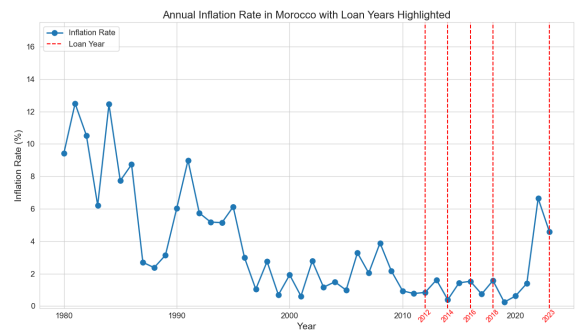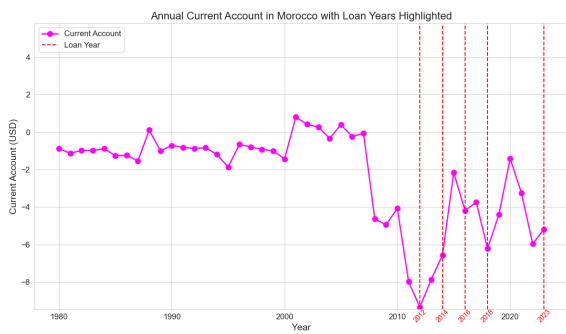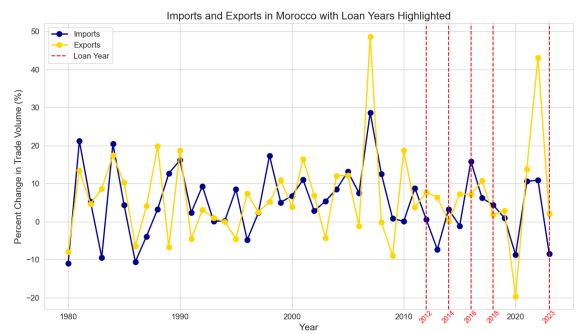
Figure 4.11: Time Series Graphs for Tunisia

35
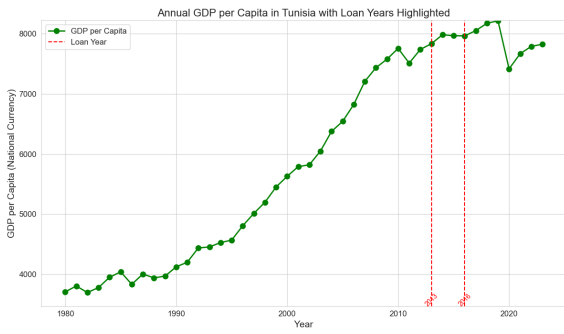


(a)
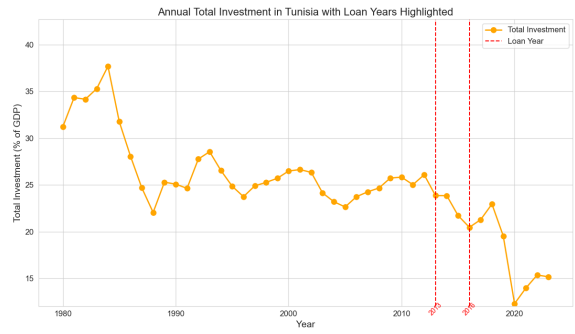


(b)
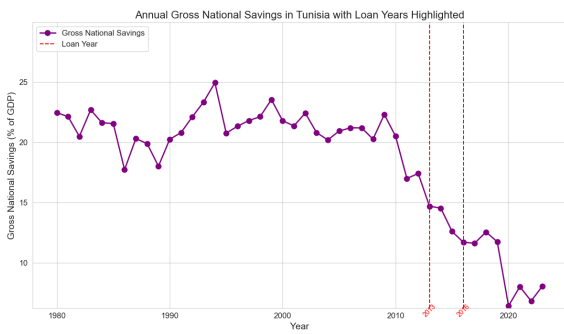


(c)
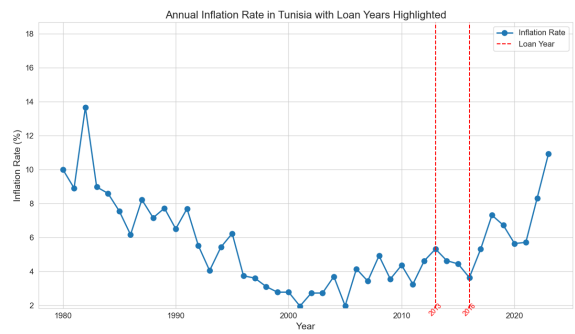


(d)
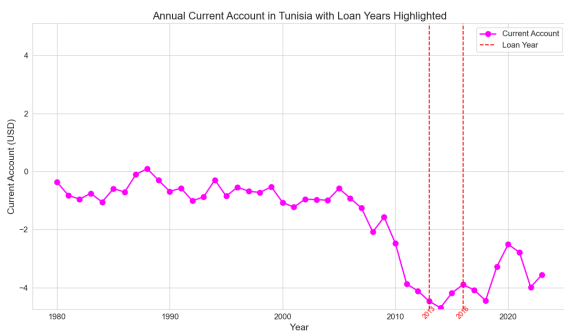


(e)
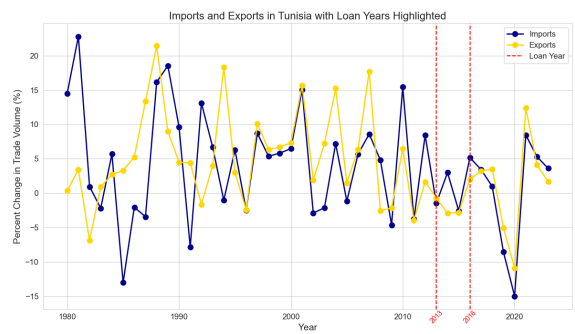


(f)

Figure 4.12: Time Series Graphs for Turkey
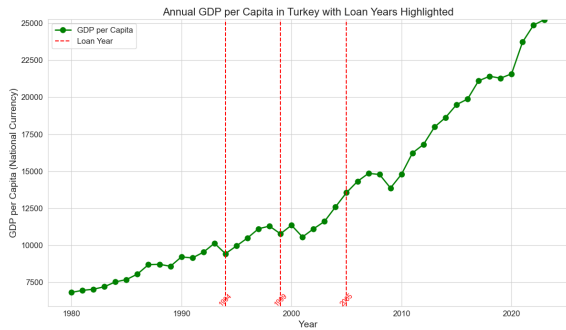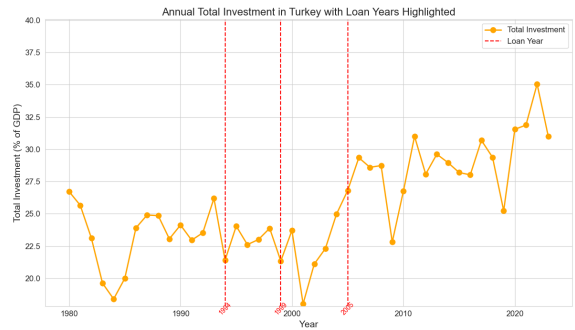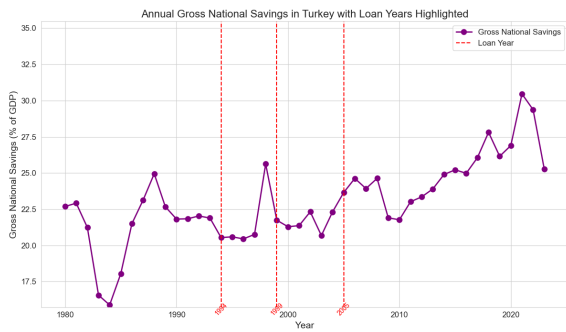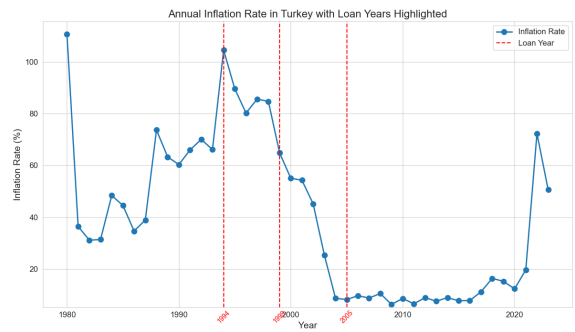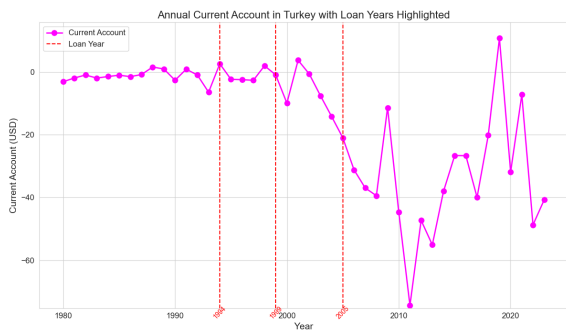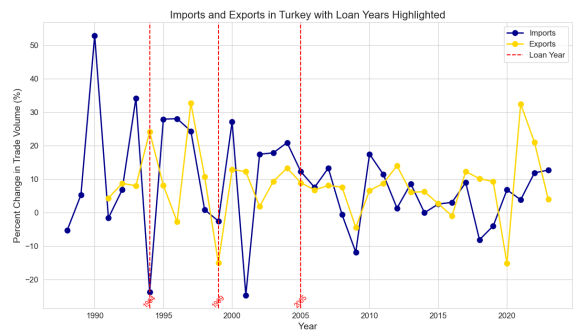
### 4.1.4 *Polity Index Summary Representation*
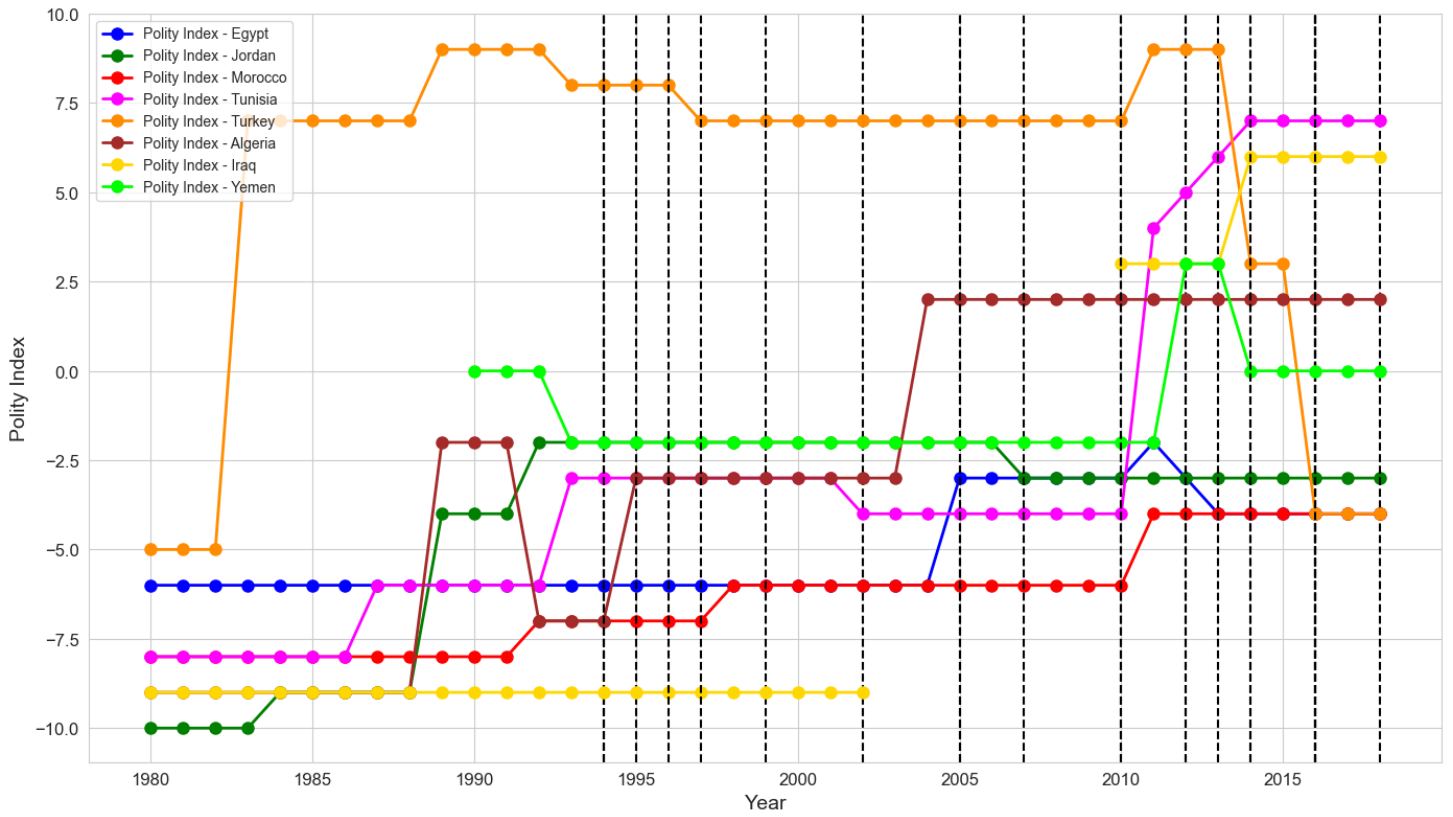


Figure 4.13: Annual Polity Index for MENA Countries with Loan Years Highlighted (up to 2018)
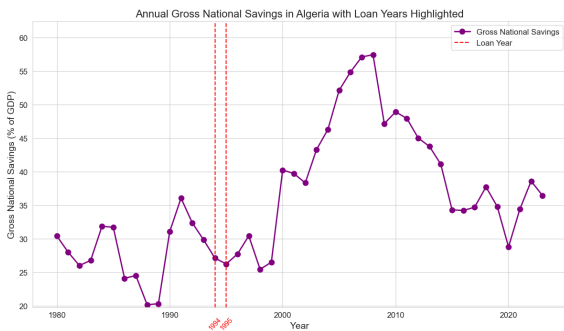
## 4.2 MENA General Analysis

### 4.2.1 *GDP Per Capita as Dependent*

| Regression<br>GDP Per Capita | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Loan Dummy | -28,630 | | -63,663 | -231.1 |
| | (41,888) | | (52,082) | (1,084) |
| Total Access | | 5.107 | 14.30 | 0.201 |
| | | (10.17) | (12.64) | (0.215) |
| Total Investment | | | | 134.2** |
| | | | | (67.48) |
| Gross National Saving | | | | 66.65 |
| | | | | (51.16) |
| Inflation | | | | -103.3*** |
| | | | | (37.82) |
| Imports | | | | -37.20 |
| | | | | (26.83) |
| Exports | | | | 2.260 |
| | | | | (29.26) |
| Unemployment | | | | -513.5*** |
| | | | | (91.96) |
| Gross Revenue | | | | 5.856*** |
| | | | | (0.366) |
| Current Account | | | | -40.47 |
| | | | | (34.33) |
| Polity Index | | | | 301.2*** |
| | | | | (81.48) |
| | | | | |
| Observations | 313 | 313 | 313 | 154 |
| Number of Countries | 8 | 8 | 8 | 6 |

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 4.14: MENA General Regression Analysis with GDP Per Capita as Dependent

Intending to research the international monetary fund's (IMF) influence on economic growth in the MENA region through the traditional models reveals a vague relationship with GDP per capita. This outcome suggests that the effects are both positive and negative, but remain without clear evidence to determine the nature of this influence. This is mainly due to several factors beyond IMF engagements influencing economic growth, including domestic policies and global conditions. The difference in implementation methods of IMF programs lagged effects of these interventions, and challenges in capturing the influence of IMF support have increased this uncertainty.

Additionally, the indirect effects of IMF engagements, such as confidence building and market stabilization, regardless of their significance, are difficult to quantify, which stresses the difficulty of determining the IMF's direct effect on the MENA region's economic growth.

Model 4 provides a deep exploration into the various determinants of economic growth. It presents statistically significant data that highlight the important role of economic activities and the quality of governance.

The rise of the Total Investment as a critical variable is a key factor in this analysis, because it was found to have a strong positive correlation with GDP per capita. This supports classical economic theory, which postulates that investment is a fundamental driver of economic expansion. In converting capital into productive assets, investments catalyze a cycle of job opportunity, enhanced efficiency, and increased aggregate output. This leads to a nurtured economic prosperity. Consequently, the relationship between Total Investment and GDP per capita sheds light on the importance of the role of capital accumulation in the expansion of business operations, productive capacity and in elevating the average economic output per individual.

To go further, Model 4 explains the side effects of Inflation and Unemployment on GDP per capita, connecting its findings in macroeconomic theories that emphasize the critical importance of price stability and good labor usage for economic health. Elevated inflation levels, through the devaluation of currency and reduction in real income, can destabilize the investment landscape and diminish consumer purchasing power. This analysis aligns with macroeconomic theories that stress the importance of maintaining price stability and improv-

ing labor market conditions to support overall economic production.

Correspondingly, high levels of unemployment signify a waste of human resources, thus limiting goods and services production and depressing GDP per capita. Moreover, the significant positive correlation between the Polity Index and GDP per capita sheds light on the advantageous impact of democratic governance on economic output. Democratic institutions enhance political stability, transparency, and property rights protection, creating an environment conducive to economic transactions. Democracy can enhance GDP Per Capita through several interconnected mechanisms typically establishing robust legal and institutional frameworks that ensure property rights, contract enforcement, and effective regulation, creating a stable environment that attracts both domestic and foreign investments, fostering economic growth. Additionally, democracies are characterized by higher levels of transparency and accountability, which can reduce corruption and improve the management of resources, thus maximizing economic outputs. The promotion of economic freedoms, such as the freedom to start businesses, trade internationally, and compete with minimal state interference, further bolsters economic activity and productivity under democratic regimes. Democracies are also more likely to implement inclusive economic policies that extend benefits across the population, including health, education, and welfare programs. Improved health and education boost labor productivity, contributing significantly to GDP Per Capita. Furthermore, democratic environments provide the political stability necessary for long-term sustainable economic development and investment, which is attractive to investors looking for secure opportunities. Model 4 shifts the focus from the direct impact of IMF loans to the broader influences of economic activities and governance on growth in the MENA region, emphasizing the importance of domestic policies, investment in assets, price stability, labor efficiency, and democratic governance in fostering a resilient and sustainable economy. This analysis challenges conventional views on the IMF's role, uncovering a complex interplay of factors that shape the economic trajectory of MENA countries. It presents a diversified growth model where economic practices and governance quality are essential, suggesting that while IMF loans may act as a catalyst, they are not the sole determinant of the region's economic future.

### 4.2.2 *Total Investment as dependent*

| Regression Total Investment | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Loan Dummy | -1.579 | | -1.859 | 0.147 |
| | (1.356) | | (1.682) | (1.353) |
| Total Access | | -0.000144 | 0.000110 | -0.000228 |
| | | (0.000314) | (0.000389) | (0.000269) |
| GDP Per Capita | | | | 0.000209** |
| | | | | (0.000105) |
| Gross National Savings | | | | 0.381*** |
| | | | | (0.0554) |
| Inflation | | | | 0.151*** |
| | | | | (0.0467) |
| Imports | | | | 0.0940*** |
| | | | | (0.0327) |
| Exports | | | | -0.00900 |
| | | | | (0.0365) |
| Unemployment | | | | -0.223* |
| | | | | (0.126) |
| Gross Revenue | | | | -7.68e-05 |
| | | | | (0.000774) |
| Current Account | | | | -0.288*** |
| | | | | (0.0353) |
| Polity Index | | | | -0.114 |
| | | | | (0.106) |
| | | | | |
| Observations | 292 | 292 | 292 | 154 |
| Number of Countries | 7 | 7 | 7 | 6 |

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 4.15: MENA General Regression Analysis with Total Investment as Dependent

In assessing the impact of IMF loans on Total Investment in the MENA region, an intricate narrative unfolds across various models. The initial exploration through Models 1 and 2 presents a paradoxical view: despite theoretical expectations that IMF financial support (Loan Dummy) and resource access (Total Access) would boost investment, both variables show negative coefficients.

The paradoxical findings in Models 1 and 2, where IMF interventions seemingly deter investment despite expectations of a boost, can be understood through several lenses. The conditions attached to IMF loans may inadvertently crowd out both public and private sector investment, as austerity measures lead to reduced government spending on infrastructure and expected increases in taxes, which in turn discourage private investment by lowering the potential returns, hindering overall economic growth. Additionally, the need for IMF support might signal to investors underlying economic fragility, dampening confidence and investment. Currency devaluation, a common IMF prescription, increases the cost of importing capital goods, further hindering investment. Higher interest rates, aimed at stabilization, raise the cost of borrowing, while structural reforms and resource reallocation towards debt repayment or reserve accumulation can create short term uncertainty and reduce available capital for investment.

These dynamics illustrate the multifaceted impact of IMF loans, where immediate negative effects on investment may reflect broader economic challenges and policy responses rather than direct causation.

Model 4 sharpens the focus on what truly drives Total Investment in the region highlighting the pivotal role of GDP Per Capita and Gross National Savings in promoting Total Investment. A positive correlation with GDP Per Capita suggests that higher income levels per capita increase the propensity for investment, reflecting a Keynesian perspective of income induced savings leading to investment. Similarly, the strong positive relationship between Gross National Savings and Total Investment underscores the classical view that savings at time (t) are a fundamental source of investment capital at time (t+1).

Interestingly, inflation also correlates positively with Total Investment in Model 4, suggesting scenarios where inflation may coexist with or even spur investment activities, possibly through growth driven inflation or by reflecting an economy's vibrant demand that encourages further investment. This can be explained in several ways.

Firstly, as businesses anticipate rising costs due to inflation, they may accelerate their purchasing or investment decisions to preempt higher future prices, thereby boosting short-term investment. This forward-thinking approach helps firms manage costs more effectively over time. Additionally, during periods of high inflation, asset values, such as real estate, tend to appreciate, attracting investors looking to safeguard their capital against inflationary losses. Another advantage of inflation is its impact on debt; as the real value of money declines, debts become cheaper to repay in real terms, potentially freeing up resources for further investment. Moreover, sector-specific growth also often accompanies inflation, particularly in industries that deal with commodities or essential resources. As these goods remain in demand regardless of economic conditions, businesses in these sectors can increase prices, thereby boosting their revenues and profits. This, in turn, encourages further investment into these industries. Finally, inflation can provide an export advantage; a weakening local currency makes a country's exports cheaper and more attractive on the international market, which can spur growth and investment in export-oriented industries. Overall, while inflation can pose challenges, it also creates opportunities for growth and investment across multiple sectors of the economy. The analysis also reveals a significant positive link between Imports and Total Investment, indicating the essential role of capital goods imports in facilitating investment. This relationship underscores the interconnectedness of trade and investment activities, with imports acting as a catalyst for domestic investment by providing the necessary capital goods.

By importing machinery and equipment, especially those embodying cutting-edge technology, businesses can expand their production capabilities. This not only enhances productivity but also equips companies to compete effectively with imported goods, fostering a cycle of continuous improvement and expansion. Additionally, diversifying suppliers by relying less on local sources and more on international ones can lead to a more stable production process. This stability is attractive to investors as it reduces production risks associated with supply

43

chain disruptions and enhances the predictability of returns. In addition, exposure to global market trends through imports also allows companies to keep up with changing consumer demands and preferences. This insight into global trends can spur new investments in products or services that meet evolving consumer needs, creating opportunities for growth and innovation. Moreover, importing in higher volumes can help companies achieve economies of scale, which lowers the cost per unit of production. The savings generated from economies of scale can then be redirected into further investments, either in expanding current operations or exploring new market opportunities. Overall, the strategic use of imports can significantly influence the scope and scale of total investment, leading to broader economic benefits and enhanced competitiveness.

This explains the observed negative correlation between the Current Account balance and Total Investment which also displays a nuanced economic behavior: a country experiencing a current account surplus, indicative of net savings exceeding domestic investments, does not automatically channel these excess savings into boosting its own investment landscape. Instead, this surplus might be allocated to investments outside the domestic economy or might reflect a broader trend of under consumption, where the economy saves more than it spends or invests. This scenario suggests that, despite having additional financial resources, the preference may lean towards external investments or the economy might simply be saving more due to lower consumption levels, rather than using these funds to enhance domestic productive capacity.

This concept can be clearly seen in the Descriptive Statistics - Time Series Graphs for Jordan (Figure 4.9). Specifically, in graph (c), it is evident that following the loan received by Jordan in 2002, and accounting for the one-year lag discussed in our methodology, there was a noticeable decline in Gross National Savings. Conversely, during the same period, graph (b) reveals an increase in Total Investment. Furthermore, in the year 2012, the data show a reversal of these trends with an increase in savings and a decrease in investment for Jordan. This observation underscores the fact that the impacts of financial interventions are not uniform, even within the same country. The outcomes are significantly influenced by the prevailing leadership and the specific policies they implement at the time. This highlights the

complexity of economic responses to policy changes and the importance of context-specific analysis.

Lastly, a negative correlation between Unemployment and Total Investment underscores the detrimental impact of labor market inefficiencies on investment sentiment. High unemployment signals economic distress, deterring investment by casting doubts on future economic prospects and consumer spending power.

This comprehensive analysis, culminating in the insights from Model 4, delineates a nuanced picture of Total Investment dynamics in the MENA region. It underscores that while IMF loans and access to resources do not have a significant direct impact, a confluence of domestic economic health indicators—such as income levels, saving rates, inflation dynamics, and trade and labor market conditions—exerts a substantial influence on investment decisions. These findings advocate for the critical importance of domestic economic management and policies in creating a conducive investment environment, over and above the reliance on international financial assistance.

### 4.2.3 *Gross National Saving as dependent*

| Regression | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Gross National Savings | | | | |
| | | | | |
| Loan Dummy | -0.781 | | -0.0965 | -0.142 |
| | (1.526) | | (1.900) | (1.800) |
| Total Access | | -0.000293 | -0.000279 | -6.22e-05 |
| | | (0.000370) | (0.000461) | (0.000359) |
| Total Investment | | | | 0.674*** |
| | | | | (0.0979) |
| GDP Per Capita | | | | 0.000184 |
| | | | | (0.000141) |
| Inflation | | | | -0.188*** |
| | | | | (0.0624) |
| Imports | | | | -0.0263 |
| | | | | (0.0448) |
| Exports | | | | 0.0779 |
| | | | | (0.0481) |
| Unemployment | | | | 0.112 |
| | | | | (0.169) |
| Gross Revenue | | | | -0.00107 |
| | | | | (0.00103) |
| Current Account | | | | 0.411*** |
| | | | | (0.0452) |
| Polity Index | | | | 0.102 |
| | | | | (0.142) |
| | | | | |
| Observations | 312 | 312 | 312 | 154 |
| %Number of countries | 8 | 8 | 8 | 6 |

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 4.16: MENA General Regression Analysis with Gross National Saving as dependent

The investigation into the effect of International Monetary Fund (IMF) engagements on Gross National Savings in the MENA region, utilizing initial models 1, 2 and 3.

This preliminary observation indicates a complicated relationship between IMF financial involvement and the savings behavior within these countries, without providing conclusive statistical evidence. Such findings hint at the possibility that IMF loans and resource access might affect national savings, yet the actual influence appears to be entangled with a variety of other determinants.

This complexity in the relationship might be attributed to several aspects inherent in IMF programs. Fiscal consolidation efforts demanded by the IMF, which often lead to increased taxes and reduced public expenditure, could diminish disposable income, thereby adversely affecting the propensity to save. The expectation of future economic policies and conditions, shaped by the IMF's intervention, might prompt individuals and firms to adjust their savings practices, either in anticipation of inflation or in response to fiscal policy tightening.

Additionally, the IMF's influence on currency valuation and recommendations for interest rate modifications could directly affect the real value of savings and alter savings incentives. The introduction of economic uncertainty through the structural reforms required by the IMF, along with the redistribution effects these reforms may trigger, could result in diverse responses in savings behavior across different sectors and income groups. Collectively, these factors demonstrate the indirect ways through which IMF engagements might impact national savings patterns, facilitated by the intricate interplay of fiscal policy adjustments, monetary policy changes, and the overall economic framework.

Model 4 reveals that inflation and unemployment detrimentally affect economic productivity, consequently leading to a reduction in GDP per capita. This analysis aligns with macroeconomic theories that stress the importance of maintaining price stability and optimizing labor market conditions to uphold overall economic health.

Additionally, the anticipation of future tax increases to service IMF loans, currency devaluation effects, interest rate adjustments, and the signaling of economic distress to markets could all contribute to an environment where savings are discouraged. Despite the IMF's aim to stabilize economies, these associated adjustments and market perceptions could deter private

investment and influence savings rates in unforeseen ways, paving the way for Model 4's in depth examination of the broader economic dynamics influencing Gross National Savings in the region.

Model 4 offers a deeper dive, presenting a more detailed narrative with the inclusion of statistically significant variables. Here, the positive link between Total Investment and Gross National Savings emerges prominently, indicating that investments within the economy likely contribute to an increase in savings. This connection underscores the principle that effective investments bolster economic growth, which, in turn, enhances income levels and the capacity for savings.

The model also explores the relationship between Inflation and Gross National Savings, detecting a negative correlation. This goes with traditional economic theories suggesting that inflation erodes the real value of savings, discouraging the accumulation of savings as individuals and entities allocate more resources to mitigate the impact of rising prices.

Furthermore, the Current Account balance's positive association with Gross National Savings sheds light on the role of international trade dynamics. A Current Account surplus, reflecting a scenario where a country exports more than it imports, signals a net accumulation of financial resources contributing to higher national savings. This reflects a healthy economic state where the country not only earns income from abroad but also manages to save a portion of these earnings.

The insights from Model 4 paint a comprehensive picture of the determinants influencing Gross National Savings in the MENA region. While direct IMF interventions do not exhibit a clear cut effect on savings, the analysis highlights the critical influence of domestic economic policies and international trade practices.

The findings suggest a strategic focus for MENA policymakers on creating a favorable investment climate, managing inflation, and optimizing trade balances as pivotal steps towards boosting Gross National Savings. This approach, prioritizing internal economic management and external economic relations over reliance on external financial assistance, appears more crucial in shaping the savings landscape of the region.

### 4.2.4 *Current account as Dependent*

| Regression Current Account | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| Loan Dummy | -1.367 | | -0.140 | -0.614 |
| | (2.003) | | (2.493) | (2.684) |
| Total Access | | -0.000521 | -0.000501 | -0.000227 |
| | | (0.000486) | (0.000606) | (0.000535) |
| Total Investment | | | | -1.135*** |
| | | | | (0.139) |
| Gross National Saving | | | | 0.915*** |
| | | | | (0.101) |
| Inflation | | | | 0.388*** |
| | | | | (0.0903) |
| Imports | | | | 0.196*** |
| | | | | (0.0647) |
| Exports | | | | -0.0858 |
| | | | | (0.0721) |
| Unemployment | | | | -0.587** |
| | | | | (0.247) |
| Gross Revenue | | | | 0.00155 |
| | | | | (0.00153) |
| GDP Per Capita | | | | -0.000248 |
| | | | | (0.000210) |
| Polity Index | | | | -0.135 |
| | | | | (0.211) |
| | | | | |
| Observations | 315 | 315 | 315 | 154 |
| Number of Countries | 8 | 8 | 8 | 6 |

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 4.17: MENA General Regression Analysis with Current account as Dependent

The relationship between IMF financial engagements and the Current Account balance in the MENA region, as suggested by the initial models, reflects a potential negative influence and not immediately apparent connection, yet lacking in statistical significance.

The potential negative influence could stem from several nuanced factors: short term capital inflows from IMF loans may initially appreciate the domestic currency but harm export competitiveness over time. Conditionality and structural adjustments required by the IMF can reduce domestic demand and disrupt trade dynamics.

Furthermore, the reception of IMF loans might influence investor confidence and market perceptions, leading to changes in capital flows that indirectly impact the Current Account. Signals of economic distress from seeking IMF assistance might provoke speculative attacks or capital outflows; and repayment obligations could strain foreign reserves, affecting the Current Account negatively.

Additionally, the diverse economic structures within the MENA region, along with external global economic factors, play significant roles in mediating the effect of IMF engagements on the Current Account balance. Hence, understanding the impact of IMF loans on the Current Account requires a deeper investigation into these intricate interactions and the broader economic context, emphasizing the indirect pathways through which IMF financial support can influence a country's external financial position.

Furthermore, policy shifts towards trade liberalization might increase imports without boosting exports equivalently, contributing to Current Account challenges. These considerations underline the complicated and sometimes counterintuitive effects of IMF interventions on a country's external financial health, which underscores the complicated relationship between international financial assistance, domestic economic policies, and global trade dynamics.

Model 4 provides deeper insights into what affects the Current Account balance by showing important relationships with other economic factors. It finds that when a country invests more money than it saves domestically, using foreign funds to cover the difference, it tends to have a Current Account deficit. This situation, explained by the absorption theory, shows there needs to be a careful balance between how much a country invests and how much it saves. If investment exceeds savings too much, it leads to more money going out of the coun-

try than coming in, affecting the Current Account negatively.

In stark contrast, Gross National Saving shows a strong positive association with the Current Account balance, emphasizing the fundamental macroeconomic identity that equates higher national savings with potential Current Account surpluses. This relationship underscores the importance of domestic savings as a buffer and a source of capital for investment without necessitating foreign borrowing, which can positively influence a country's external financial stance.

Furthermore, the model introduces a counterintuitive positive correlation between Inflation and the Current Account balance. This could be explained by the Balassa Samuelson effect, where higher inflation, stemming from rapid economic growth, enhances a country's export competitiveness, as the local goods become cheaper for foreign buyers, potentially leading to improved Current Account positions through trade surpluses.

Additionally, the positive impact of Imports on the Current Account balance contradicts traditional expectations, suggesting a nuanced economic dynamic. This relationship may indicate that imports, particularly of capital goods essential for export production, play a crucial role in bolstering export capabilities and, by extension, positively affect the Current Account balance. This scenario reflects the interconnectedness of imports and exports in economies heavily engaged in global trade, where the importation of inputs is pivotal for the production of exportable goods.

The analysis elucidates a negative correlation between Unemployment and the Current Account balance, signifying that elevated unemployment rates, reflective of a broader economic downturn, detrimentally influence the Current Account. This adverse effect is primarily attributed to diminished domestic consumption, inclusive of imports, which consequentially impairs the trade balance. Reduced consumer and business expenditure, stemming from higher unemployment, leads to a decrease in import demand, adversely affecting the trade component of the Current Account.

By delving into these relationships, Model 4 underscores the limited direct influence of IMF related variables on the Current Account balance, highlighting instead the paramount importance of domestic economic management, saving rates, investment decisions, and international

trade practices. For policymakers in the MENA region, these findings stress the need for a holistic approach to economic policy that considers both domestic economic conditions and the intricacies of global economic integration to foster a healthy Current Account balance and, by extension, a stable external financial position.

### 4.2.5 Inflation as Dependent

| Regression<br>Inflation | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| | | | | |
| Loan Dummy | 2.558 | | 2.611 | -2.231 |
| | (2.772) | | (3.454) | (2.378) |
| Total Access | | 0.000355 | -2.12e-05 | 0.00199*** |
| | | (0.000672) | (0.000837) | (0.000444) |
| Total Investment | | | | 0.470*** |
| | | | | (0.145) |
| Gross National Saving | | | | -0.330*** |
| | | | | (0.110) |
| GDP Per Capita | | | | -0.000500*** |
| | | | | (0.000183) |
| Imports | | | | -0.195*** |
| | | | | (0.0570) |
| Exports | | | | 0.0378 |
| | | | | (0.0643) |
| Unemployment | | | | -0.282 |
| | | | | (0.223) |
| Gross Revenue | | | | 0.000825 |
| | | | | (0.00136) |
| Current Account | | | | 0.306*** |
| | | | | (0.0713) |
| Polity Index | | | | 0.237 |
| | | | | (0.187) |
| | | | | |
| Observations | 310 | 310 | 310 | 154 |
| %Number of Countries | 8 | 8 | 8 | 6 |

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 4.18: MENA General Regression Analysis with Inflation as Dependent

The analysis of inflation in the MENA region, incorporating Models 1, 2, and 3, indicates a complex, subtle link to IMF engagements, with a slight positive influence on inflation suggested but not statistically confirmed. This collective assessment emphasizes the intricate and indeterminate impact of IMF interventions on inflation, revealing a picture too complex for straightforward attribution.

The ambiguous impact of IMF interventions on inflation in the MENA region can also be attributed to a variety of additional theories beyond the direct complexities of inflation. These include the challenges of enforcing IMF recommended monetary policies, the potential for structural reforms to cause short term inflation spikes, the role of public expectations and government credibility in shaping inflation outcomes, and the influence of external shocks like global commodity price changes. Moreover, supply side constraints within economies and the effects of capital flows and exchange rate volatility further complicate the IMF's direct impact on inflation. Each of these factors underscores the intricate web of domestic and international influences that can obscure the effects of IMF policies on inflation, making it difficult to isolate and quantify their contributions.

The narrative deepens with Model 4, where a comprehensive analysis incorporating additional economic variables clarifies the determinants of inflation. A significant positive correlation between Total Investment and inflation points to demand pull inflation, a scenario where increased investment heightens economic activity, potentially outstripping supply capabilities and pushing prices upwards. Conversely, Gross National Saving's inverse effect on inflation suggests that higher levels of saving, indicative of reduced consumption, may help ease demand driven inflationary pressures, aligning with the principle that savings can mitigate excessive demand and price hikes.

Moreover, a significant negative relationship between GDP Per Capita and inflation indicates that higher economic output per individual, reflecting better economic health, tends to associate with lower inflation levels. This could be due to improved productivity and efficient monetary policies that favor price stability. Additionally, the dampening effect of Imports on inflation highlights the role of imports in satisfying domestic demand and curbing price increases, especially when imports include cost effective consumer goods or capital goods that

enhance production capacity.

The analysis also uncovers a significant positive relationship between the Current Account balance and inflation, suggesting that trade dynamics and currency valuations play critical roles in the inflation narrative. A Current Account surplus might lead to currency appreciation, making imports cheaper and possibly increasing domestic demand, thereby exerting upward pressure on prices.

The analysis further underscores a well-established relationship between exports and inflation. Typically, an increase in inflation results in the depreciation of the domestic currency, which enhances the competitiveness of domestic products on the international market. This, in turn, increases the country's exports, positively affecting the Current Account balance. This dynamic is clearly demonstrated in the Descriptive Statistics - Time Series Graphs for Turkey, as depicted in Figure 4.12. Graph (d) shows that following a loan taken in 1999, there is a notable decrease in inflation. When we consider the one-year lag as discussed in the methodology, graph (e) subsequently reveals an increase in the Current Account balance the following year. This rise in the Current Account balance can be attributed to an increase in exports, driven by the more competitive pricing of domestic goods abroad due to a weaker currency. Additionally, it may also reflect a rise in import prices, which can further affect the balance.

Model 4's findings illuminate that while IMF related variables ('Loan Dummy' and 'Total Access') do not directly drive inflation, a constellation of domestic economic activities and external financial positions profoundly impacts inflationary outcomes. This analysis underscores the significance of comprehensive domestic economic management and strategic engagement in the global economy in controlling inflation, rather than predominantly relying on international financial institutions. The intricate relationships between investment, savings, GDP per capita, imports, and the Current Account balance with inflation emphasize the necessity for holistic economic policies that consider both internal dynamics and external interactions to effectively manage inflation in the MENA region.

## 4.3   Country By Country Analysis

| Regression | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| GDP Per Capita | Algeria | Egypt | Jordan | Morocco | Tunisia | Turkey |
| | | | | | | |
| Loan Dummy | -2,151 | -4,574* | -29.60 | -1,882 | -610.7 | -1,072 |
| | (7,620) | (2,321) | (200.6) | (2,364) | (591.4) | (1,516) |
| Total Access | 1.205 | | -0.107 | 0.0745 | 0.306 | 0.0746 |
| | (6.520) | | (0.258) | (0.634) | (0.353) | (0.194) |
| Total Investment | 408.2 | 657.4 | 2.920 | 501.9* | -260.1*** | 46.73 |
| | (410.1) | (660.6) | (12.38) | (254.8) | (54.62) | (786.6) |
| Gross National Savings | 597.9*** | -492.3 | 24.18 | -94.77 | 259.3*** | 42.32 |
| | (202.2) | (588.4) | (17.55) | (189.8) | (50.99) | (795.4) |
| Inflation | -253.3* | 213.0 | 0.333 | -42.86 | -188.5*** | -47.83 |
| | (142.8) | (172.3) | (9.501) | (139.2) | (26.85) | (54.89) |
| Imports | -33.00 | -44.03 | 5.188 | -104.5** | 0.0296 | -4.033 |
| | (77.64) | (46.63) | (4.673) | (44.40) | (7.639) | (33.79) |
| Exports | 389.3** | 21.11 | 8.372 | 14.60 | 7.519 | -82.99 |
| | (143.3) | (47.22) | (5.944) | (16.52) | (7.079) | (45.81) |
| Unemployment | -631.4 | 704.7 | -46.52* | 599.9** | -118.8** | -554.4* |
| | (412.4) | (530.2) | (22.90) | (222.7) | (48.64) | (250.5) |
| Gross Revenue | 3.138*** | 2.893 | 88.07* | 52.25*** | 119.1*** | 8.021*** |
| | (0.668) | (3.253) | (42.87) | (6.733) | (22.76) | (1.574) |
| Current Account | -221.2 | -17.75 | -88.01 | 698.0** | -1,058*** | -14.32 |
| | (186.5) | (213.5) | (104.0) | (289.9) | (135.3) | (74.06) |
| Polity Index | 361.2 | 932.0* | -121.6* | 1,067* | -145.1*** | -75.26 |
| | (584.6) | (449.0) | (67.01) | (523.5) | (34.06) | (102.4) |
| | | | | | | |
| Observations | 29 | 20 | 34 | 24 | 28 | 19 |

Figure 4.19: Country By Country Regression Analysis with GDP Per Capita as Dependent

| Regression | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Gross National Saving | Algeria | Egypt | Jordan | Morocco | Tunisia | Turkey |
| | | | | | | |
| Loan Dummy | -4.783 | -2.445* | 4.528** | -4.379 | 2.210 | 0.286 |
| | (7.354) | (1.277) | (2.132) | (3.427) | (1.767) | (0.737) |
| Total Access | 0.00253 | | -0.00320 | 0.000779 | -0.00125 | -0.000175** |
| | (0.00633) | | (0.00295) | (0.000929) | (0.00105) | (6.60e-05) |
| Total Investment | 0.386 | 1.106*** | 0.448*** | 1.236*** | 0.963*** | 0.958*** |
| | (0.400) | (0.0916) | (0.109) | (0.260) | (0.0913) | (0.0926) |
| GDP Per Capita | 0.000568*** | -0.000147 | 0.00329 | -0.000215 | 0.00238*** | 9.55e-06 |
| | (0.000192) | (0.000175) | (0.00238) | (0.000430) | (0.000468) | (0.000180) |
| Inflation | 0.0847 | 0.162* | 0.0707 | -0.140 | 0.378** | 0.0602*** |
| | (0.150) | (0.0863) | (0.110) | (0.207) | (0.134) | (0.0154) |
| Imports | -0.0147 | -0.00483 | -0.0550 | -0.101 | -0.0230 | -0.0371*** |
| | (0.0760) | (0.0266) | (0.0547) | (0.0753) | (0.0224) | (0.00784) |
| Exports | -0.0968 | 0.0372 | -0.214*** | 0.0197 | -0.00669 | -0.0245 |
| | (0.166) | (0.0229) | (0.0561) | (0.0250) | (0.0221) | (0.0247) |
| Unemployment | 0.508 | 0.769*** | -0.496* | 0.507 | 0.191 | 0.00965 |
| | (0.411) | (0.185) | (0.271) | (0.399) | (0.166) | (0.155) |
| Gross Revenue | -0.00189** | -0.00271 | 0.621 | 0.0226 | -0.289*** | 0.000871 |
| | (0.000874) | (0.00162) | (0.529) | (0.0240) | (0.0876) | (0.00159) |
| Current Account | 0.576*** | 0.303*** | 4.451*** | 1.403*** | 3.032*** | 0.0893*** |
| | (0.127) | (0.0583) | (0.786) | (0.344) | (0.487) | (0.0103) |
| Polity Index | 0.0991 | -0.127 | 3.484*** | 0.402 | 0.318** | 0.0542 |
| | (0.576) | (0.295) | (0.387) | (0.907) | (0.128) | (0.0462) |
| | | | | | | |
| Observations | 29 | 20 | 34 | 24 | 28 | 19 |

Figure 4.20: Country By Country Regression Analysis with Gross National Saving as Dependent

| Regression | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Total Investment | Algeria | Egypt | Jordan | Morocco | Tunisia | Turkey |
| | | | | | | |
| Loan Dummy | 8.582** | 2.182* | -4.414 | 3.917* | -1.632 | -0.0863 |
| | (3.866) | (1.113) | (3.322) | (2.105) | (1.751) | (0.753) |
| Total Access | -0.00557 | | 0.00167 | -0.000460 | 0.000896 | 0.000163* |
| | (0.00350) | | (0.00445) | (0.000611) | (0.00104) | (7.14e-05) |
| GDP Per Capita | 0.000135 | 0.000151 | 0.000864 | 0.000487* | -0.00225*** | 1.08e-05 |
| | (0.000136) | (0.000152) | (0.00366) | (0.000247) | (0.000473) | (0.000182) |
| Gross National Saving | 0.134 | 0.852*** | 0.974*** | 0.529*** | 0.908*** | 0.980*** |
| | (0.139) | (0.0706) | (0.236) | (0.111) | (0.0861) | (0.0947) |
| Inflation | 0.0156 | -0.135 | 0.0655 | 0.0517 | -0.375** | -0.0643*** |
| | (0.0893) | (0.0772) | (0.163) | (0.137) | (0.129) | (0.0134) |
| Imports | 0.108*** | 0.00965 | 0.126 | 0.140*** | 0.0265 | 0.0384*** |
| | (0.0365) | (0.0232) | (0.0781) | (0.0342) | (0.0215) | (0.00732) |
| Exports | -0.188** | -0.0295 | 0.167 | -0.0230 | 0.00990 | 0.0254 |
| | (0.0875) | (0.0206) | (0.101) | (0.0154) | (0.0214) | (0.0249) |
| Unemployment | -0.613*** | -0.710*** | 0.576 | -0.734*** | -0.112 | -0.0358 |
| | (0.205) | (0.145) | (0.411) | (0.180) | (0.165) | (0.156) |
| Gross Revenue | -0.000277 | 0.00207 | -2.286*** | -0.0269* | 0.263*** | -0.000849 |
| | (0.000578) | (0.00147) | (0.641) | (0.0143) | (0.0886) | (0.00161) |
| Current Account | -0.353*** | -0.246*** | -6.209*** | -1.164*** | -2.983*** | -0.0921*** |
| | (0.0714) | (0.0611) | (1.245) | (0.0894) | (0.457) | (0.00781) |
| Polity Index | -0.155 | 0.141 | -2.432** | -1.215** | -0.370*** | -0.0627 |
| | (0.338) | (0.257) | (1.122) | (0.485) | (0.114) | (0.0452) |
| | | | | | | |
| Observations | 29 | 20 | 34 | 24 | 28 | 19 |

Figure 4.21: Country By Country Regression Analysis with Total Investment as Dependent

| Regression | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Current Account | Algeria | Egypt | Jordan | Morocco | Tunisia | Turkey |
| | | | | | | |
| Loan Dummy | 15.42* | 3.580 | -0.436 | 3.740** | -0.840* | -1.527 |
| | (8.784) | (4.165) | (0.394) | (1.664) | (0.469) | (7.964) |
| Total Access | -0.00877 | | 0.000101 | -0.000490 | 0.000471 | 0.00175* |
| | (0.00788) | | (0.000523) | (0.000499) | (0.000280) | (0.000750) |
| Total Investment | -1.671*** | -2.612*** | -0.0854*** | -0.802*** | -0.244*** | -10.34*** |
| | (0.338) | (0.649) | (0.0171) | (0.0616) | (0.0373) | (0.877) |
| Gross National Saving | 0.948*** | 2.477*** | 0.133*** | 0.414*** | 0.234*** | 10.25*** |
| | (0.210) | (0.476) | (0.0235) | (0.102) | (0.0375) | (1.181) |
| Inflation | -0.104 | -0.274 | -0.0115 | 0.0304 | -0.140*** | -0.660*** |
| | (0.193) | (0.276) | (0.0190) | (0.114) | (0.0292) | (0.156) |
| Imports | 0.210** | -0.0251 | 0.00464 | 0.119*** | -0.001000 | 0.386*** |
| | (0.0833) | (0.0758) | (0.00964) | (0.0271) | (0.00642) | (0.0914) |
| Exports | -0.208 | -0.0618 | 0.0299** | -0.0185 | 0.00849 | 0.233 |
| | (0.209) | (0.0716) | (0.0108) | (0.0129) | (0.00578) | (0.268) |
| Unemployment | -1.422*** | -1.659** | 0.0457 | -0.628*** | -0.0913** | -0.364 |
| | (0.428) | (0.716) | (0.0494) | (0.142) | (0.0422) | (1.657) |
| Gross Revenue | 0.000942 | 0.00585 | -0.307*** | -0.0274** | 0.0683** | -0.00718 |
| | (0.00124) | (0.00492) | (0.0681) | (0.0109) | (0.0265) | (0.0172) |
| GDP Per Capita | -0.000346 | -4.32e-05 | -0.000358 | 0.000467** | -0.000749*** | -0.000371 |
| | (0.000291) | (0.000520) | (0.000423) | (0.000194) | (9.58e-05) | (0.00192) |
| Polity Index | -0.170 | 0.634 | -0.380*** | -1.044** | -0.118*** | -0.793 |
| | (0.738) | (0.825) | (0.120) | (0.395) | (0.0297) | (0.451) |
| | | | | | | |
| Observations | 29 | 20 | 34 | 24 | 28 | 19 |

Figure 4.22: Country By Country Regression Analysis with Current Account as Dependent

| Regression | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Inflation | Algeria | Egypt | Jordan | Morocco | Tunisia | Turkey |
| | | | | | | |
| Loan Dummy | 25.49** | 11.44*** | -4.508 | -3.297 | -2.049 | -5.180 |
| | (10.19) | (3.182) | (4.401) | (4.918) | (2.769) | (10.07) |
| Total Access | -0.0126 | | 0.00622 | 0.00137 | 0.00105 | 0.00230** |
| | (0.00971) | | (0.00567) | (0.00125) | (0.00164) | (0.000945) |
| Total Investment | 0.115 | -1.877 | 0.112 | 0.227 | -0.920** | -11.92*** |
| | (0.658) | (1.077) | (0.277) | (0.602) | (0.317) | (2.486) |
| Gross National Saving | 0.217 | 1.736* | 0.262 | -0.264 | 0.875** | 11.41*** |
| | (0.385) | (0.927) | (0.407) | (0.389) | (0.311) | (2.912) |
| GDP Per Capita | -0.000617* | 0.000682 | 0.000168 | -0.000183 | -0.00401*** | -0.00205 |
| | (0.000348) | (0.000551) | (0.00478) | (0.000594) | (0.000571) | (0.00235) |
| Imports | -0.00666 | -0.00784 | -0.230** | 0.0911 | -0.0184 | 0.430** |
| | (0.122) | (0.0874) | (0.0960) | (0.108) | (0.0349) | (0.150) |
| Exports | 0.0946 | -0.0456 | 0.00359 | -0.0504 | 0.0407 | 0.0915 |
| | (0.267) | (0.0840) | (0.139) | (0.0321) | (0.0322) | (0.361) |
| Unemployment | -1.743*** | -2.134** | 0.450 | 0.242 | -0.423* | -2.500 |
| | (0.541) | (0.755) | (0.552) | (0.578) | (0.241) | (1.915) |
| Gross Revenue | 0.000329 | 0.0115** | -0.666 | 0.0270 | 0.488*** | 0.00803 |
| | (0.00158) | (0.00470) | (1.041) | (0.0332) | (0.122) | (0.0221) |
| Current Account | -0.162 | -0.360 | -1.419 | 0.194 | -4.209*** | -1.090*** |
| | (0.300) | (0.363) | (2.352) | (0.727) | (0.877) | (0.257) |
| Polity Index | -2.305*** | 0.723 | -0.886 | -1.576 | -0.674*** | -1.036 |
| | (0.734) | (0.947) | (1.601) | (1.169) | (0.156) | (0.575) |
| | | | | | | |
| Observations | 29 | 20 | 34 | 24 | 28 | 19 |

Figure 4.23: Country By Country Regression Analysis with Inflation as Dependent

### 4.3.1 *Algeria*

The International Monetary Fund (IMF) involvement with Algeria's economy, results in a chain of interrelated impacts on different macroeconomic variables. The relationship between Gross National Savings (GNS) and Gross Domestic Product per Capita (GDPC) highlights a fundamental economic principle: higher national savings positively contribute to increased GDP per Capita, suggesting that savings fuel economic growth by providing the necessary capital for investment. This relationship underscores the importance of domestic savings in driving economic prosperity.

Simultaneously, the impact of inflation on GDPC reveals the adverse effects of rising price levels on economic growth. Higher inflation rates, showed a negative relationship with GDPC, lowering purchasing power and undermining economic output, emphasizing the need for effective monetary policy to maintain price stability. The positive correlation between exports and GDPC further illustrates the critical role of external trade in bolstering economic output, where increased exports signify a thriving trade sector that contributes significantly to GDP growth.

The dynamics of Total Investment (TI) within Algeria's economy, particularly in relation to IMF loans denoted by the Loan Dummy (LD), reflect the catalytic role of external financial assistance in fostering investment activities. The positive influence of LD on TI indicates that IMF loans not only provide essential capital but also enhance economic stability, encouraging local and foreign investments. However, this positive scenario is tempered by the complex interplay between TI and other economic variables, such as the Current Account (CA) and unemployment. Specifically, the negative relationship between TI and the CA balance suggests that increased investment, potentially driven by the importation of capital goods, may pressure the CA, highlighting the challenges of balancing investment driven growth with external financial health.

Further complicating this economic narrative is the role of governance and political stability, as captured by the Polity Index. The interaction between the Polity Index and various economic indicators—positively with GDPC and negatively impacting aspects like the Current Account—underscores the significant influence of governance quality on economic outcomes.

Effective governance and political stability not only facilitate an environment conducive to growth but also play a crucial role in managing the complex effects of IMF loans, investment, and trade dynamics on the broader economic landscape.

Inflation's relationship with the broader economy, particularly its negative association with GDPC and its complex interaction with unemployment and the Polity Index, highlights the multifaceted challenges of maintaining economic stability and growth. Inflationary pressures, potentially exacerbated by IMF loans, pose significant policy challenges, requiring careful balancing between stimulating economic activity and ensuring price stability.

In conclusion, the involvement of the IMF in Algeria's economy has had a significant impact, acting as both a catalyst for economic growth and a factor in the complex economic challenges faced by the country. While IMF loans have facilitated investment and contributed to potential economic growth, they also necessitate careful economic management to balance investment with financial stability, control inflation, and leverage the positive effects of external trade. Ultimately, Algeria's experience highlights the critical importance of governance and political stability in leveraging external financial assistance for sustainable economic development, emphasizing the need for a holistic approach to economic policy making that aligns with the country's broader development goals.

### 4.3.2 Egypt

In the context of Egypt's economy, the impact of International Monetary Fund (IMF) loans, represented by the Loan Dummy (LD), reveals a complex interplay with the nation's key economic indicators, weaving a narrative that intricately connects external financial support to internal economic dynamics and governance. The negative relationship between LD and Gross Domestic Product per Capita (GDPC) suggests that while IMF loans are aimed at increasing economic stability and growth, their presence might be associated with certain economic conditions or loan stipulations that temporarily hinder GDP growth.

(explanation in more simple terms: A negative relationship suggests that IMF loans (or the presence thereof) are associated with a decrease in GDP per capita in Egypt, possibly indicating that the conditions attached to these loans or the economic circumstances necessitating

them are not conducive to immediate economic growth.

Conversely, the positive influence of the Polity Index on GDPC underscores the crucial role of stable governance and effective political systems in facilitating economic prosperity, highlighting that beyond financial inputs, the quality of governance significantly dictates economic outcomes.

The negative correlation between LD and GNS suggests that IMF loans, while aimed at stabilizing and stimulating the economy, may initially lead to a reduction in national savings. This decrease could stem from the fiscal adjustments required by the loans, such as austerity measures that reduce disposable income, or from increased consumption and investment spending encouraged by the influx of loan capital. This reduction in savings is critical as it reflects on the broader economic policy challenges posed by balancing the immediate benefits of IMF loans with their long term implications for domestic financial stability.

Simultaneously, the positive relationship between LD and TI underscores the IMF's role in fostering investment by providing essential capital and enhancing economic confidence. This facilitation of investment is a cornerstone of the IMF's intended economic support, aiming to catalyze growth and development. However, the increase in TI spurred by IMF loans does not exist in a vacuum; it is deeply entwined with other economic variables, creating a complex network of interactions.

For instance, as TI rises, fueled by IMF loans and the consequent increase in capital availability, this heightened investment activity interacts with Egypt's GNS and the Current Account. Increased investment often necessitates the importation of capital goods, which can exacerbate the Current Account deficit, illustrating a critical trade off between stimulating domestic economic growth through investment and managing the nation's external financial health.

Moreover, the impact of TI on Inflation and Unemployment introduces additional layers to this economic narrative. Increased investment can lead to economic expansion, which, in the short term, may heighten inflationary pressures as demand outpaces supply. The relationship between investment and unemployment is also pivotal; theoretically, higher investment should lead to job creation and lower unemployment rates. However, the effectiveness of this mechanism depends on the nature of the investments and the broader economic context,

including the efficiency of the labor market and the alignment of investment with sectors that can meaningfully contribute to job creation.

The dynamics of Egypt's Current Account in relation to IMF loans further reflect the complexity of integrating external financial support with national economic management strategies. While loans are intended to bolster the economy, their effects on trade balances, savings, and investment highlight the intricate balancing act required to leverage these loans effectively without compromising financial stability.

### 4.3.3  *Jordan*

In Jordan, the influence of International Monetary Fund (IMF) loans, unfolds through a the interplay among critical economic indicators, highlighting the complex interactions between external financial assistance, domestic economic performance, and governance. This intricate relationship is particularly evident in how IMF loans correlate with Gross National Savings (GNS), Total Investment (TI), the Current Account balance, and broader economic outcomes such as GDP per Capita (GDPC) and inflation, within the framework of Jordan's political governance as measured by the Polity Index.

The positive impact of IMF loans, as shown by the Loan Dummy (LD), on Gross National Savings (GNS) in Jordan hints that these loans might be leading to better savings habits within the country. This improvement could be due to the financial discipline and increased trust that come with IMF support, motivating both the government and private citizens to save more. This indicates that IMF loans do more than just help with immediate financial troubles; they also encourage a savings culture that's crucial for the country's financial future. On the other hand, the relationship between IMF loans, GDP per Capita (GDPC), and the Polity Index adds a level of complexity. The negative link between LD and GDPC suggests that IMF loans might initially strain Jordan's economy, possibly because of tough fiscal measures or the loans signaling financial troubles. Meanwhile, the Polity Index's relationship with GDPC and GNS paints a nuanced picture of governance's role in economic health. While better governance, as indicated by a positive score on the Polity Index, seems to improve savings, it might also slow down economic growth in the short term. This could be due to

delays in policy implementation or political issues that shake confidence in the economy and deter investment.

Further weaving through Jordan's economic fabric, the relationship between TI and various economic measures such as GNS, the Current Account, and the Polity Index elucidates the multifaceted impact of investments on the nation's financial health. While GNS positively influences TI, signifying that domestic savings fuel investment, the subsequent negative impact of TI on the Current Account balance highlights a challenging trade off. Increased investments, particularly those necessitating capital goods imports, may strain the Current Account, underscoring the delicate equilibrium between fostering domestic growth through investment and sustaining a healthy external financial stance.

Moreover, the interaction between TI and the Polity Index, along with the role of government revenue, indicates that while savings and external financial support encourage investment, governance quality and fiscal policies play critical roles in determining the efficiency and direction of these investments. This interconnection accentuates the necessity for coherent policies that align investment strategies with national economic priorities and governance frameworks to optimize their impact on growth and stability.

Inflation dynamics in Jordan, particularly the negative relationship with imports, further enrich the economic analysis. This suggests that the capacity to import goods, possibly facilitated by IMF loans and a robust Current Account, can help temper inflationary pressures, illustrating a crucial aspect of macroeconomic management where trade policies and external financial relations contribute to domestic price stability.

In summary, Jordan's economic landscape, as shaped by IMF loans, presents a scenario where external financial assistance interacts with internal economic variables and governance structures in a complex web of relationships. These interactions underscore the importance of strategic economic management that harmonizes the benefits of IMF support with the goals of national savings accumulation, investment growth, and inflation control, all within a stable political and fiscal environment. Understanding these dynamics is crucial for leveraging IMF loans effectively to navigate the challenges and opportunities they present for Jordan's economic development.

### 4.3.4 *Morocco*

In Morocco, the interplay between International Monetary Fund (IMF) loans, depicted through the Loan Dummy (LD), and key economic indicators showcases a multifaceted narrative of economic development and governance. The dynamics at play illuminate how external financial assistance and internal policy measures collectively shape Morocco's economic trajectory, particularly in relation to Gross Domestic Product per Capita (GDPC), Gross National Savings (GNS), Total Investment (TI), the Current Account balance, and the broader implications of governance quality, as captured by the Polity Index.

The positive impact of Total Investment (TI) on GDPC underscores the critical role of investment in driving Morocco's economic growth. This relationship highlights how fostering an environment conducive to investment, potentially stimulated by the confidence and financial capital provided through IMF loans, is essential for enhancing economic output. However, the interplay between TI and imports, where increased investment might lead to a surge in imports for capital goods, negatively affecting GDPC, suggests a delicate balance between encouraging investment and managing its impact on the trade balance.

Adding to the picture the Polity Index, which positively correlates with GDPC. This indicates that higher levels of democratic governance and political stability are beneficial for economic growth, emphasizing the importance of sound governance structures in facilitating economic development. The nuanced relationship between governance quality and economic outcomes is further reflected in the dynamics of the Current Account and GNS, where governance and external financial engagements intertwine to influence Morocco's financial stability and saving practices.

The Current Account's interactions with various economic variables reveal the complexities of managing Morocco's external financial position. The positive influence of LD on the Current Account suggests that IMF loans can support external balance, possibly by enhancing financial stability or encouraging exports. However, the negative impact of increased Total Investment on the Current Account balance points to the challenges of fostering domestic growth through investment without exacerbating external deficits, highlighting the trade offs inherent in economic policy decisions.

Moreover, the relationship between GNS and both Total Investment and the Current Account underscores the interconnected nature of domestic savings, investment, and external financial health. Increased national savings, bolstered by a healthy trade surplus reflected in the Current Account, provide a foundation for sustainable investment, underscoring the cyclical relationship between saving, investment, and economic growth.

In summary, Morocco's economic landscape, as influenced by IMF loans, presents a complex picture where external financial support interacts with domestic investment, savings, and governance to shape the nation's economic development. The analysis reveals the crucial role of sound governance and effective economic management in leveraging IMF loans for sustainable growth, while also navigating the challenges posed by investment driven growth and its implications for the trade balance and overall economic stability. Understanding these intricate relationships is vital for formulating policies that align IMF financial support with Morocco's long term development goals, ensuring that the economy remains on a path toward growth and stability.

### 4.3.5 *Tunisia*

In Tunisia's economic narrative, the interplay between various economic indicators in the context of International Monetary Fund (IMF) loans reveals a complex mosaic of impacts shaping the nation's economic health and development trajectory. This analysis begins by considering the nuanced effects of Total Investment (TI), Inflation (inf), Unemployment (unmp), and governance quality, as indicated by the Polity Index, on Gross Domestic Product per Capita (GDPC), Gross National Savings (GNS), and the Current Account balance, shedding light on the multifaceted dynamics at play.

Total Investment (TI) emerges as a pivotal factor with a nuanced influence across the economic spectrum. In the Tunisian context, the observed negative correlation between Total Investment (TI) and Gross Domestic Product per Capita (GDPC) challenges the conventional wisdom that investments inherently fuel economic growth. This discrepancy suggests that the investments may not be optimally aligned with the sectors of the economy most conducive to immediate growth or that the Tunisian economy's current structure might not have the ca-

pacity to efficiently absorb and utilize these investments. Such a scenario indicates potential inefficiencies or sectoral mismatches, where the areas receiving investment do not correspond with those capable of generating quick and significant returns in terms of economic output per capita.

Conversely, the positive impact of TI on GNS highlights the critical role investments play in fostering a culture of savings, suggesting that effective investment not only fuels economic activities but also encourages savings accumulation, essential for long term financial stability. However, the scenario becomes more complex when considering the effects of Inflation and Unemployment. Inflation's negative impact on GDPC underscores the erosive effect of rising prices on economic value, diminishing real incomes and purchasing power, which, in turn, hampers economic growth. Similarly, high unemployment rates negatively affecting GDPC point to underutilized labor resources, reflecting broader economic inefficiencies that constrain growth. Yet, in the realm of GNS, Inflation exhibits a positive relationship, indicating that, paradoxically, higher inflation may coincide with increased savings, possibly as a protective response by households and businesses against purchasing power erosion.

The role of the Polity Index introduces an additional layer of complexity, revealing the significant influence of governance quality and political stability on economic outcomes. Its negative correlation with GDPC and TI implies that governance challenges and political instability can impede economic growth and investment flows, highlighting the critical importance of stable and effective governance structures in facilitating economic prosperity. Conversely, the positive association of the Polity Index with GNS suggests that higher levels of democratic governance might encourage savings behavior, possibly through greater confidence in the economic system or more effective fiscal policies.

Furthermore, the dynamics of the Current Account balance in Tunisia's economic analysis are particularly telling. The negative impacts of TI and the positive influence of GNS on the Current Account balance underscore the delicate equilibrium between fostering domestic investment, managing savings, and maintaining a healthy external financial stance. These relationships highlight the interconnectedness of domestic economic policies, investment strategies, and external financial engagements in shaping Tunisia's economic stability

and growth prospects.

In summary, Tunisia's economic landscape, as influenced by IMF loans and domestic economic policies, presents a detailed picture of the interplay between investment, savings, inflation, unemployment, and governance quality in determining economic growth, stability, and development. This intricate web of relationships underscores the necessity for holistic and nuanced economic management strategies that align external financial assistance with internal economic reforms and governance improvements to achieve sustainable economic advancement and well being.

### 4.3.6 *Turkey*

In Turkey's economic evaluation within the framework of International Monetary Fund (IMF) assistance, a distinctive emphasis on "Total Access" — the extent of financial resources allocated by the IMF — emerges as a pivotal factor shaping the country's macroeconomic variables. This focus diverges from other MENA region countries where the binary aspect of having an IMF loan (Loan Dummy) was significant, highlighting in Turkey's case that the magnitude of IMF support plays a critical role in influencing economic outcomes.

Total Access's significant influence on Total Investment (TI) illustrates a nuanced narrative: the volume of financial assistance from the IMF directly correlates with the level of investment within the country. Unlike other nations where the mere presence of an IMF loan was enough to mark economic shifts, in Turkey, it is the scale of the loan that amplifies investment activities, underlining the importance of the size of financial inflow in driving economic growth. This substantial external financing aids in catalyzing significant investment projects, potentially accelerating Turkey's economic expansion.

However, the impact of Total Access extends beyond fostering investment to intricately affecting other economic facets such as inflation, Gross National Savings (GNS), and the Current Account balance, thereby weaving a complex interplay of economic influences. The significant relationship between Total Access and inflation in Turkey indicates that the amount of IMF financing received bears direct implications for the country's price levels. Higher levels of IMF support could engender inflationary pressures, possibly due to increased liquidity and

demand within the economy, necessitating nuanced monetary policy adjustments to navigate the growth inflation nexus effectively.

Moreover, the interaction between Total Access and GNS reveals that larger IMF loans, while bolstering immediate financial stability and investment capabilities, might inadvertently impact domestic savings practices. The substantial external funds could either discourage savings by providing an alternative source of financial security or affect consumption and investment behaviors, altering the traditional savings investment relationship.

The dynamics of Total Access with the Current Account balance further underscore the multifaceted effects of IMF loan volumes on Turkey's external financial health. While facilitating increased investment and economic activity, the scale of IMF support might also lead to a widened Current Account deficit, reflecting the increased import demand for capital goods necessary for bolstered investment endeavors. This scenario accentuates the delicate balance required in leveraging substantial IMF financial assistance to foster domestic economic growth while managing the implications for Turkey's international trade and financial standing.

In conclusion, Turkey's experience with IMF assistance, particularly the significant role of Total Access, underscores a critical insight: the magnitude of IMF financial support intricately influences the nation's economic trajectory. Unlike other countries where the binary presence of an IMF loan marked significant economic interactions, in Turkey, the amount of the loan emerges as a crucial determinant of investment, inflation, savings, and the Current Account dynamics. This distinction calls for a tailored approach to economic policy making in Turkey, where strategic utilization of substantial IMF loans must be harmonized with broader economic management objectives to ensure sustainable growth, inflation control, and balanced external accounts.

# Chapter 5

# Conclusion

## 5.1  Summary and Synthesis

The comprehensive analysis across multiple models and dependent variables—GDP Per Capita, Total Investment, Gross National Saving, Current Account balance, and Inflation—offers a nuanced understanding of the International Monetary Fund's (IMF) influence on the MENA region's economic landscape.

While the direct impact of IMF engagements on economic indicators such as GDP per Capita and Total Investment presents a complex and sometimes paradoxical relationship, deeper explorations reveal a broader array of determinants critical to economic health and growth. With Model 4 showing that although IMF presence could be helpful, the domestic economy indicators are more decisive factor. This model highlights the fundamental duties of GDP Per Capita and gross savings for investment creation and the complication of defining IMF's impact due to the varying rate of interest, and trade relations.

Looking at Gross National Saving and the Current Account, we can see the indirect way through which IMF programs influence economies of nations. In all the analyses there is one common factor, which is domestic economic management encompassing investment climates, inflation control, labor market efficiency , and trade balances. All play a key role in shaping a the economic outlook of any economy.

For inflation as the depended variable, it provides a more complicated relation with IMF engagement. The representation in Model 4 juxtaposes the interaction between internal

macroeconomic activities and external economic factors that immutably form inflationary responses. This showases the role of the comprehensive economic management and the international economic balance as the factors leading to a success in controlling inflation.

Therefore, the formerly existing hypothesis in the area of IMF's function and effectiveness in helping the MENA region, is mostly imposed by domestic policies, business dynamics, governance quality, and global economic conditions. This means that though IMF funding might in some cases initiate GDP growth, but other factors determine the country's economic welfare. Pushing forth the pivotal role of home-grown economic policies, input in assets, care of the rate of inflation, worker productivity, and democratic rule making, is the way forward to performance quality. Such findings direct the policy makers of MENA area toward the designing of comprehensive strategies where domestic strengths and international economic openings are utilized to create competitive advantage in sustainably and resilient economies.

The cross-country study with the IMF's involvement in 6 nations (Algeria, Egypt,Jordan, Morocco, Tunisia, Turkey) reveals heterogeneous effects and a complex interaction of external financial assistance with domestic economic and political indicators specific to each nation. As IMF loans intend to stabilize economies, attract investors, and boost growth, the effectiveness of these loans and their impacts is linked with several factors like the national policies, the investment climate, the capabilities of the economies to absorb and deploy these investments efficiently, the type of governance.

Furthermore, IMF engagements consistently reveal their direct influence on inflationary trends, particularly in Turkey and Tunisia. This underlines the delicate balance required in chanelling IMF loans for economic stabilization without igniting inflationary pressures, demanding meticulous monetary policy adjustments.

In all countries, the relationship between IMF assistance, Total Investment, and GDP Per Capita illustrates a multifaceted impact of external loans on economic growth.

This impact resembles a double edged sword, because as IMF loans can help enhance economic growth, they can also have severe consequences on the country's current account balance national savings if not well managed.

Taken as an example, IMF loans to countries such as Jordan and Morocco, have raised the volume of gross national savings, encouraging the formation of better savings habits which are a essential to promote financial stability in the long run. However, the recommendation cannot be as simple as adopting a standard approach because, among many factors, the economic conditions and policy framework of each nation are very distinct.

Reflected through the Polity Index the analysis repeatedly underscores the importance of governance quality and political stability, in diminishing the negative effects of IMF loans on economic indicators. Powerful governance and democracy as well as political stability are paramount in leveraging IMF assistance for sustainable development.

In summary, to leverage IMF financial assistance in a manner that catalyzes sustainable economic advancement is a delicate task that requires strategic policies that integrate these loans into broader development goals. Such policies should focus on achieving long-term prosperity by ensuring monetary stability, directing investments efficiently towards sectors poised for sustainable growth, and strengthening governance structures.

Hence, using this evidence we can contradict the hypothesis that IMF loans are inherently ineffective and harm the MENA region as their success largely depends on the recipient country's seriousness and capability in implementing necessary changes. This indicates that there's no downside to receiving these funds, however their impact on the recipient country's economy hinges on their optimal utilization through adjustments at the domestic level.

## 5.2 Suggestions for Further Research

To enhance the precision and contextual relevance of this study on the Impact of IMF loans on the Economic Growth of MENA Region Countries, several methodological advancements are proposed for incorporation into following research. Firstly, replacing the traditional ordinary least squares (OLS) regression with a time-weighted regression approach—either linearly weighted or exponentially weighted—would allow the analysis to give more importance to recent data points. This adjustment acknowledges the more immediate impacts of recent ideological shifts, technological progress, and changes in governance structures.

In addition to this methodological shift, given the diverse political and economic landscapes within the MENA region, a country-by-country comparative analysis by governance type could provide deeper insights. This approach would allow for the examination of specific governance types and significant political regime changes, such as transitions from autocratic to democratic systems or shifts in monarchy structures. Additionally, segmenting the data by governmental ruling periods could offer insights into how various administrations respond to IMF loans, particularly in relation to electoral cycles or major political shifts.

Further enriching the analysis, the use of Structural Vector Autoregression (SVAR) models could significantly elucidate the dynamics between IMF loans and key economic indicators by treating the loans as shocks within the system, allowing for an exploration of the causal impacts over time with specific economic restrictions based on theoretical grounds. Implementing panel data models, such as fixed effects or random effects, would also help control for inherent unobservable heterogeneities across countries. This method would isolate the specific effects of IMF loans by accounting for individual country characteristics that persist over time.

Employing robust regression techniques would enhance the analysis by minimizing the influence of outliers, ensuring that the results reflect genuine trends rather than anomalies. Additionally, a meticulous case-by-case analysis of the effects of IMF loans on individual

MENA countries would facilitate a comprehensive understanding of the unique conditions and factors that contribute to the success or failure of these loans, potentially offering targeted insights into the effectiveness of IMF strategies and policies.

By incorporating these methodological enhancements, the analytical depth and accuracy of the study will be significantly bolstered, offering a more detailed and nuanced understanding of how IMF loans impact economic growth across different MENA countries. This approach will ensure a thorough and rigorous examination of the complex interplay between international financial interventions and regional economic dynamics.

# Bibliography

**Alesina, Alberto**, *The political economy of macroeconomic stabilizations and income inequality: myths and reality*, Cambridge, Mass: MIT Press, 1998.

**Azedi, Arman and Evan Schofer**, "Assessing the Anti-Globalization Movement: Protest Against the WTO, IMF, and World Bank in Cross-National Perspective," *The Sociological Quarterly*, 2023, *64* (3), 445–470.

**Baldacci, Emanuele, Benedict Clements, Sanjeev Gupta, and Qiang Cui**, "Social spending, human capital, and growth in developing countries," *World development*, 2008, *36* (8), 1317–1341.

**Barrientos, Armando**, "Social transfers and growth: A review," *Available at SSRN 1538926*, 2008.

**Bazoobandi, Sara**, "The Middle East North Africa Socio-economic Challenges," *The New Regional Order in the Middle East: Changes and Challenges*, 2020, pp. 1–25.

**Bella, C Gabriel Di, Mark J Lewis, and Aurélie Martin**, "Assessing competitiveness and real exchange rate misalignment in low-income countries," 2007.

**Berg, Andrew and Jeffrey Sachs**, "The debt crisis structural explanations of country performance," *Journal of Development Economics*, 1988, *29* (3), 271–306.

**Bernal-Verdugo, Mr Lorenzo E, Davide Furceri, and Mr Dominique M Guillaume**, *Crises, labor market policy, and unemployment*, International Monetary Fund, 2012.

**Bhagwati, Jagdish**, "Anti-globalization: why?," *Journal of Policy Modeling*, 2004, *26* (4), 439–463.

**Biglaiser, Glen and Ronald J McGauvran**, "The effects of IMF loan conditions on poverty in the developing world," *Journal of International Relations and Development*, 2022, *25* (3), 806–833.

**Bird, Graham and Dane Rowlands**, "Political Economy Influences Within the Life-Cycle of IMF Programmes," *World Economy*, 2003, *26* (9), 1255–1278.

**Birdsall, Nancy**, "A global credit club, not another development agency," *Rescuing the World Bank, Washington DC, Center for Global Development*, 2006, pp. 69–85.

__ , **Augusto De la Torre, and Felipe Valencia Caicedo**, "The Washington consensus: assessing a damaged brand," *Center for Global Development Working Paper*, 2010, (213).

**Caldwell, Bruce**, "The Chicago school, Hayek, and neoliberalism," *Building Chicago economics: New perspectives on the history of America's most powerful economics program*, 2011, pp. 301–34.

**Cardoso, Fernando Henrique**, "Industrialization, dependency and power in Latin America," *Berkeley Journal of Sociology*, 1972, pp. 79–95.

**Dabla-Norris, Ms Era, Ms Kalpana Kochhar, Mrs Nujin Suphaphiphat, Mr Frantisek Ricka, and Ms Evridiki Tsounta**, *Causes and consequences of income inequality: A global perspective*, International Monetary Fund, 2015.

**Dreher, Axel**, "IMF and economic growth: The effects of programs, loans, and compliance with conditionality," *World Development*, 2006, *34* (5), 769–788.

__ , "IMF conditionality: theory and evidence," *Public choice*, 2009, *141* (1), 233–267.

__ **and Andreas Fuchs**, "Rogue aid? An empirical analysis of China's aid allocation," *Canadian Journal of Economics/Revue canadienne d'économique*, 2015, *48* (3), 988–1023.

**Eichengreen, Barry**, "International economic policy in the wake of the Asian crisis," 1998.

**Fidrmuc, Jan and Stefani Kostagianni**, "Impact of IMF assistance on economic growth revisited," 2015.

**Frank, Andre Gunder**, *Capitalism and underdevelopment in Latin America*, Vol. 93, NYU Press, 1967.

**Friedman, MILTON**, "Neoliberalism," *Finance & Development*, 2016, p. 39.

**Gatwiri, Kathomi, Julians Amboko, and Darius Okolla**, "The implications of Neoliberalism on African economies, health outcomes and wellbeing: a conceptual argument," *Social Theory & Health*, 2020, *18* (1), 86–101.

**Hajarnavis, Kavish, Dhruv Mahajan, and ROH Hyunwoo**, "How successful are International Monetary Fund loan programs?," *Journal of Economics Library*, 2023, *10* (1-2), 36–48.

**Harrigan, Jane R and Hamed El-Said**, "The economic impact of IMF and World Bank programs in the Middle East and North Africa: A case study of Jordan, Egypt, Morocco and Tunisia, 1983-2004," *Review of Middle East Economics and Finance*, 2010, *6* (2), 1–25.

**Harvey, David**, "Neoliberalism," 2005.

**Hauner, David, Alessandro Prati, and Cagatay Bircan**, "The interest group theory of financial development: Evidence from regulation," *Journal of Banking & Finance*, 2013, *37* (3), 895–906.

**Hemming, Richard, Michael Kell, and Selma Mahfouz**, "The effectiveness of fiscal policy in stimulating economic activity: A review of the literature," 2002.

**Houtven, Leo Van**, *Governance of the International Monetary Fund (IMF): Decision Making, Institutional Oversight, Transparency and Accountability* number 53, International Monetary Fund, 2002.

**International Monetary Fund**, "IMF Lending," https://www.imf.org/external/pubs/ft/ar/2020/eng/what-we-do/lending/ 2020.

_ , "International Monetary Fund Annual Report 2020: A Long and Difficult Ascent," https://www.imf.org/external/pubs/ft/ar/2020/eng/downloads/imf-annual-report-2020.pdf 2020.

___ , "IMF Annual Report 2021: A Fair Shot," https://www.imf.org/external/pubs/ft/ar/2021/eng/downloads/imf-annual-report-2021.pdf 2021.

___ , "IMF Lending in FY 2023," https://www.imf.org/external/pubs/ft/ar/2023/what-we-do/lending/#:~:text=In%20FY%202023%2C%20the%20IMF,benefiting%20five%20low%2Dincome%20countries. 2023.

**Kaminsky, Graciela L and Carmen M Reinhart**, "On crises, contagion, and confusion," *Journal of international Economics*, 2000, *51* (1), 145–168.

**Kentikelenis, Alexander E, Thomas H Stubbs, and Lawrence P King**, "IMF conditionality and development policy space, 1985–2014," *Review of International Political Economy*, 2016, *23* (4), 543–582.

**Kruger, Mark, Robert Lavigne, and Julie McKay**, "The role of the International Monetary Fund in the post-crisis world," Technical Report, Bank of Canada Staff Discussion Paper 2016.

**Krugman, Paul**, "Financing vs. forgiving a debt overhang," *Journal of development Economics*, 1988, *29* (3), 253–268.

**Lane, Mr Philip R and Mr Gian M Milesi-Ferretti**, *International financial integration in the aftermath of the global financial crisis*, International Monetary Fund, 2017.

**Makdisi, Samir A, Raimundo Soto, and Razan Amine**, "The Arab Uprisings and The Path to National Peace and Sustainable Development," in "in" Economic Research Forum (ERF) 2022.

**Mercer-Blackman, Valerie and Anna Unigovskaya**, "Compliance with IMF program indicators and growth in transition economies," *Emerging Markets Finance and Trade*, 2004, *40* (3), 55–83.

**Mossallam, Mohammed**, "The IMF in the Arab world: lessons unlearnt," *Bretton Woods Project, November*, 2015.

**Nafie, Noha**, "The Social Effect of the IMF Policies Post Arab-Spring in the Middle East," 2021.

**Nkrumah, Kwame**, "Neo-colonialism: The last stage of imperialism," 1965.

**Nozick, Robert and Thomas Nagel**, *Anarchy, state, and utopia*, Vol. 5038, Basic books New York, 1974.

**Ozturk, Ilhan**, "The macroeconomic effects of IMF programs in MENA countries," *African Journal of Business Management*, 2011, *5* (11), 4379–4387.

**Piketty, Thomas**, *Capital in the twenty-first century*, Harvard University Press, 2014.

**Prebisch, R.**, "The Economic Development of Latin America and Its Principal Problems," United Nations Department of Economic Affairs, Economic Commission for Latin America (ECLA), New York 1950. http://archivo.cepal.org/pdfs/cdPrebisch/002.pdf.

**Przeworski, Adam and James Raymond Vreeland**, "The effect of IMF programs on economic growth," *Journal of development Economics*, 2000, *62* (2), 385–421.

**Radelet, Steven and Jeffrey Sachs**, "What have we learned, so far, from the Asian financial crisis?," *Harvard Institute for International Development, mimeo*, 1999.

**Reinhart, Carmen M and Kenneth S Rogoff**, "The aftermath of financial crises," *American Economic Review*, 2009, *99* (2), 466–472.

**Reinikka, Ritva and Jakob Svensson**, "15 How corruption affects service delivery and what can be done about it," *International Handbook on the Economics of Corruption*, 2006, p. 441.

**Reinsdorf, Mr Marshall B**, *Measuring economic welfare: what and how?*, International Monetary Fund, 2020.

**Rodrik, Dani**, *The globalization paradox: Democracy and the future of the world economy*, WW Norton & Company, 2011.

**Roy, Rathin and Raquel Almeida Ramos**, "IMF Article IV reports: an analysis of policy recommendations," Technical Report, Working paper 2012.

**Rustomjee, Cyrus, B Subramanian, and Jiakun Li**, "IMF Engagement with Small Developing States on Growth Issues," *IEO Background Paper No. BP/22-01/04 (Washington: International Monetary Fund)*, 2022.

**Stiglitz, Joseph E**, "Information and the Change in the Paradigm in Economics," *American economic review*, 2002, *92* (3), 460–501.

— , *The price of inequality: How today's divided society endangers our future*, WW Norton & Company, 2012.

**v Hayek, FA**, "Scientism and the study of society. Part III," *Economica*, 1944, *11* (41), 27–39.

**Wallerstein, Immanuel**, "The Rise and Future Demise of the World Capitalist System: Concepts for Comparative Analysis," *Comparative Studies in Society and History*, 1974, *16* (4), 387–415.

**Williamson, Oliver E**, "Assessing contract," *The Journal of Law, Economics, and Organization*, 1985, *1* (1), 177–208.

**Woods, Ngaire and Domenico Lombardi**, "Uneven patterns of governance: how developing countries are represented in the IMF," *Review of International Political Economy*, 2006, *13* (3), 480–515.

**World Bank**, "World Bank Annual Report 2016," https://thedocs.worldbank.org/en/doc/596391540568499043-0340022018/original/worldbankannualreport2016.pdf 2016.

— , "EDS05 Annual Report 2021: English Summary," https://thedocs.worldbank.org/en/doc/cd05d27f0203b90751fcfe7145cd5a3d-0330122021/original/EDS05-Annual-Report-2021-English-Summary.pdf 2021.