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ISTANBUL GELISIM UNIVERSITY
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Department of Economics and Finance

**DETERMINANTS OF ECONOMIC DEVELOPMENT
AMIDST POLITICAL INSTABILITY: YEMEN'S CASE**



Master Thesis

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Supervisor

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DECLARATION

I hereby declare that in the preparation of this thesis, scientific ethical rules have been followed, the works of other persons have been referenced in accordance with the scientific norms if used, there is no falsification in the used data, any part of the thesis has not been submitted to this university or any other university as another thesis.

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ABSTRACT

Many countries in the Middle East region lay on abundance of natural resources, yet, they never had the chance to use them effectively, and people of these countries suffer from different crises. However, some of those countries had been suffering from the lack of economic resources, but that was not the only reason to for millions of people to remain in severe need. Political corruption, ignorance, and not to mention the heinous exploitation by the superpower countries and their collusion with the corrupt governments in the Middle East in exchange for running their own interests regardless of the circumstances of the peoples of these countries, all that play an essential role in the current situation.

This research aimed to study the theoretical and practical justifications for political instability, oil rent, and foreign direct investments in post-war Yemen rebuilding with regard to economic growth.

Political instability, oil rent, and foreign direct investment (FDI) served as the study's explanatory variables; GDP growth (annual; %) served as the study's response variable, and as a result, its influence on the reconstruction of Yemen following the conflict. The Johansen cointegration test was used in the study to determine whether there was cointegration among the variables. The short-run and long-run coefficients were also estimated using the Vector autoregression (VAR) estimation technique, and their individual effects on economic growth in Yemen were evaluated for significance. FDI, oil rent, and political instability were found to have significant long-term effects on economic growth, but short-term effects were neutral. The Granger Causality test was applied to look for any causative connections between the variables, and the results revealed that there were unidirectional connections between FDI, pol-ins, oil rent, and economic growth.

Keywords: Yemen, conflict, political economy, Economic growth, Foreign direct investment, Reconstruction, VAR, Granger causality

ÖZET

Ortadoğu bölgesinde birçok ülke doğal kaynakların bolluğuna sahip olmasına rağmen bunları verimli bir şekilde kullanma şansı bulamamış ve bu ülkelerin insanları farklı krizler yaşamaktadır. Bununla birlikte, bu ülkelerden bazıları ekonomik kaynak eksikliğinden muzdariptir, ancak milyonlarca insanın ciddi ihtiyaç içinde kalmasının tek nedeni bu değildir. Siyasi yozlaşma, cehalet ve süper güç ülkelerinin iğrenç sömürsü ve bu ülkelerin halklarının statüsü ne olursa olsun kendi çıkarlarını gözetmek karşılığında Ortadoğu'daki yozlaşmış hükümetlerle gizli anlaşmalarından bahsetmeye bile gerek yoktur.

Bu araştırma, savaş sonrası Yemen'in yeniden inşasında siyasi istikrarsızlık, petrol rantı ve doğrudan yabancı yatırımların ekonomik büyüme açısından teorik ve pratik gerekçelerini incelemeyi amaçlamaktadır.

Politik istikrarsızlık, petrol rantı ve doğrudan yabancı yatırım (DYY), çalışmanın açıklayıcı değişkenleri olarak görev yaptı; GSYİH büyümesi (yıllık;%), çalışmanın yanıt değişkeni ve sonuç olarak çatışmanın ardından Yemen'in yeniden inşası üzerindeki etkisi olarak hizmet etti. Çalışmada değişkenler arasında eşbütünleşme olup olmadığını belirlemek için Johansen eşbütünleşme testi kullanılmıştır. Kısa dönem ve uzun dönem katsayıları da Vektör otoregresyon (VAR) tahmin tekniği kullanılarak tahmin edilmiş ve bunların Yemen'deki ekonomik büyüme üzerindeki bireysel etkileri anlamlılık açısından değerlendirilmiştir. DYY, petrol rantı ve siyasi istikrarsızlığın ekonomik büyüme üzerinde uzun vadeli önemli etkileri olduğu, ancak kısa vadeli etkilerin nötr olduğu bulundu. Değişkenler arasında herhangi bir nedensel bağlantı aramak için Granger Nedensellik testi uygulandı ve sonuçlar, DYY, petrol rantı ve ekonomik büyüme arasında tek yönlü bağlantılar olduğunu ortaya çıkardı.

Anahtar Kelimeler: Yemen, çatışma, politik ekonomi, Ekonomik büyüme, Doğrudan yabancı yatırım, yeniden yapılandırma, VAR, Granger nedenselliği

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ABBREVIATIONS

FDI:	Foreign direct investment
GDP:	Gross domestic product
IMF:	International Monetary Fund
MENA:	Middle East and North Africa
UNSDGs:	United Nations Sustainable Developments Goals
VAR:	Vector autoregressive
OLS:	ordinary least squares



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CHAPTER ONE

1.0 Introduction

Conflicts can arise for a variety of causes, including competition for economic resources or opportunities, tensions over ideologies, ethnicity, or religion, politics, and border issues (Christopher et al, 2011). We can better understand a conflict by looking at intrastate conflict from the perspective of political economics. However, the lasting effects of economic abuse, militarization of production, and criminalized commerce underscore the various difficulties that conflict management faces in these contexts and, as a result, these difficulties are the reconstruction challenges.

In comparison to other crises in the Middle East, including those in Syria and Iraq, the war and humanitarian tragedy in Yemen has gotten comparatively little analytical or academic attention, and it has been constantly referred to be an unstable state that will fail at establishing order for years. The majority of what is accessible are reports that are based on observations of the crisis and historical occurrences prior to 2011.

The Republic of Yemen is a state located in the south of Arabian Peninsula neighboring Sultanate of Oman from the east and Saudi Arabia from the north. Yemen's location enables it to control the Bab al-Mandab Strait through which oil and cheap international trade pass. One of the world's important sea straits is Bab al-Mandab, which connects the Red Sea to the Gulf of Aden in Yemen's southwest. 3.5 million barrels of oil pass through it every day (4 percent of global production) (Juneau, 2007). As "some estimates indicate that 30% of the world's oil and 7% of global trade transit via the Bab al-Mandeb Strait." (Binwaber and Muneer, 2019). The amount of crude oil, gas, and refined petroleum products that passed through the Bab el-Mandeb Strait each day into Europe, the United States, and Asia in 2018 was predicted to be 6.2 million barrels per day (b/d), up from 5.1 million b/d in 2014. About 9% of the total seaborne commerce in petroleum (crude oil and refined petroleum products) passed through the Bab el-Mandeb Strait in 2017. A total of 2.6 million b/d flowed in the other direction, mostly to Asian markets like Singapore, China, and India, while about 3.6 million b/d went north toward Europe.

However, the country has been struggling from several crises. From the early stages, state failure is seen to be very possible in the upcoming years due to the convergence of a number of escalating factors, including the armed Shiite rebellious group called Houthis conflict in the North and the instability in the South as well as the rapid depletion of natural resources and booming demographics (*Juneau, 2007*). As Aleksandar Mitreski notes in his essay "Civil War in Yemen: A Complex Conflict with Multiple Futures," Yemen's conflict is riddled with several groups, each of which has its own set of objectives, and conflict within them has shaped its political landscape. therefore, it would be necessary to put the current situation in the right perspective in order to attempt to grasp the Yemeni problem.

In September 2014, in order to seize power in Sana'a and renegotiate the precarious power-sharing agreement in Yemen, the Ansarullah (Houthis) movement joined forces with former president Ali Abdullah Saleh and pursued President Abdu Rabbu Mansour Hadi all the way down to Aden the southern city he fled to. Saudi Arabia and the United Arab Emirates began a military intervention in March 2015 with the stated goal of installing Hadi back in office. The nation is still deeply involved in a terrible military conflict, and whenever there is talk of putting an end to the conflict, the need for reconstruction arises.

Reconstruction following a conflict is not certain. Instead, it is influenced by, among other factors, the geoeconomic dynamics that already exist in war zones. The post-conflict reconstruction process will be challenging as the hostilities in Syria, Yemen, Libya, and Iraq begin to deescalate. Although each nation's post-war vision is distinct, political rehabilitation is a crucial cornerstone for long-term economic stability in all four nations and the four conflict-affected will be facing the question of whether and how they can successfully navigate the post-conflict reconstruction process in light of the present national, regional, and international power dynamics (*Adly, et al, 2021*).

Chatham House report published in 2019 stated that: despite being crucial to understanding wars in nations like Libya, Syria, and Yemen, economic considerations have frequently been disregarded in the MENA region. Even though economic reasons did not initiate the wars in these nations, it is obvious that they now play a crucial part of its extension. Hence, Macroeconomic reforms should be put into action, as experts strongly urge, to address the urgent and essential issue of restarting economic

development. In addition to dealing with policies to cope with infrastructure rehabilitation, the role of foreign direct investment, foreign aid, and commodity price shocks, they include monetary, fiscal, and exchange rate reforms the Microeconomic level is also essential for long-term development, the population's adoption of the advantages of peace, and boosting the legitimacy of reconstruction.

1.1.PURPOSE

The purpose of this research is to study the challenges of reconstruction in post-war Yemen in the context of political economy and take a selected economic growth indicator as a case study. The concept of reconstruction seems to face many challenges. Hence, this study will try to identify the expected obstacles to overcome in the term of post-conflict reconstruction that might encounter with respect to state rebuilding of Yemen.

The ongoing violent conflict in Yemen is critical. Therefore, the study will draw conclusions from different experiences of reconstruction processes that have taken place in different part of the work. Then, aiming to help the policy makers, the following researchers, and the international actors who interested in building a sustainable peace in Yemen, this study will come up with recommendations that will contribute to strengthening peacebuilding and state rebuilding in Yemen in any future plan.

This study can also be seen as a contribution to the empirical and policy-oriented literature on conflict by giving a better understanding of the potential needs and potential difficulties that Yemen might encounter during its reconstruction phase, in addition to offering a novel methodological approach to the conflict literature. my strategy for simulating a nation's post-war growth is in line with suggestions to transparently explain uncertainty in policy evaluations (Manski 2011; 2018), while also directing efficient aid distribution in support of conflict resolution and the reconstruction that must come after. This study will help structure an effective plan to start the reconstruction processes in post-war Yemen as soon and as effective as possible.

1.2. STATEMENT OF THE PROBLEM

Countries that have suffered from war and its consequences always need reconstruction. Usually, the reconstruction process faces many challenges. According to the pre-war condition of a country, the reconstruction will be settled, the more difficult were the conditions of a country before the war, the more complicated reconstruction will be. Yemen is one of the most devastated countries in the world recently due to the ongoing bloody war. Since the very beginning, the talk of the reconstruction has been taken place in every discussion about Yemen. Yet, not many of these talks have given the economy challenges what it is worthy of discussion. Hence, in this study I am going to focus on the reconstruction challenges in Yemen from an economic perspective.

No many literatures were really focused on the political economy side of agony experienced in war in Yemen, and no many serious efforts helped for prevent the recurrence of the violence cycle despite the dozen of political settlements that Yemen has been experienced. The economic side has always been almost ignored. Hence, the purpose of this study is to provide contribution to help establishing a sustainable peace in the devastated country by notifying the different factors should be taken into consideration while any future talks about Yemen's situation.

Describing how scientific knowledge created in relation to the topic of the reconstruction political economy to be explored will be studied. This study is being conducted with scientific interest. By using the mixed models of vector autoregressive (VAR), and sub-models such as descriptive Statistics, Unit-root Test, and cointegration to numerically measure the factors of the economic growth and their impact on the reconstruction plans in Yemen.

In addition to the country's political, social, historical, and regional factors, the economics is regarded as an invisible component that significantly impacted the Yemeni crisis and ongoing efforts to rebuild the nation. So, in this research, I will be elaborating on the relationship between the selected economic growth indicators and their impact on the reconstruction process of the country highlighting the literature review of the similar studies in post-conflict countries in the region and around the world.

1.3. SCOPE

This thesis explains the approaches of political economy in the context of reconstruction in post conflict effected country, concentrating on the Republic of Yemen as a case study. Committed to the academic rules, using the qualitative methodology, the following chapters will be addressed in headings and sub-headings arranged in all explain the economic growth selected parameters and its relation to economic reviving in post-war Yemen.

1.4. IMPORTANCE

The necessity of studying and bringing attention to this sector justifies the choice of the topic of challenges facing the political economy in post-war Yemen over another. A few numbers of concentrated studies which are directly related to the topic such as (Breisinger, et al 2020) &(Alsabai,2020), and good number of NGO's reports have been conducted. therefore, this study can take the available studies to the next level and contribute to the literature through focusing on Yemen as a sample of the wars occurring in the Middle East. This thesis starts with the background of the current situation, studying the reasons that led to it, then studying links between multiple factors, predicting future challenges, and finally combining them together in the body of an academic thesis to conclude and come up with recommendations that can be scientifically useful. The data collected will be expressed and used to address the problem.

This study can serve as a base to construct an effective, practical reconstruction efforts in Yemen after war with group of selected economic parameters by appropriate models and sub-models.

1.5. ASSUMPTIONS

Economic growth selected parameters such as political instability, FDI and oil rent have a severe impact positively on the Yemeni reconstruction planning.

1. 6. THEORETICAL FRAMEWORK

1.6.1 Definitions of the Main Leading Concepts:

It is imperative to discuss the academically based definitions of practical ideas since these definitions will establish the framework for theory and practice and lead to a better comprehension of the study's goal. Conflict theories based on neoclassical economics have become increasingly prevalent recently. They are becoming more powerful in the donor, academic, and nonprofit organization communities (C. cramer, 2002).

1.6.1.1 State-building, nation building theories and definitions:

State-building, state construction, and nation-building are the three fundamental aspects of state-building that are particularly pertinent to the Yemeni experience in this regard. Reviewing them is essential to putting the Yemeni state-building phenomenon in context, particularly when considering the debates around the possible outcomes of various forms of outside intervention.

State-building theories have been a significant topic of study in the social sciences over the last three decades. This demand led Western scholars to critically examine foreign intervention in post-Cold War nations and fragile regimes (Barakat and Chard, 2002; Fukuyama, 2004a, b, c, 2005; Hehir, et al, 2007; Lemay-Hebert, 2009; among others). The debate over statehood sovereignty and intervention in the international system was largely centered on the political science approach, which sparked discussion about issues like democratization, liberalization, institutionalization, good governance, and development, and the international relations approach, which was pioneered by Paris & Sisk (2007) and Krasner (1999). (Lemay-Hebert ,2009).

State-building is externally driven and closely tied to economic development, security, peacekeeping, and the involvement of outside parties, particularly in post-conflict nations (Wyeth and Sisk, 2009). Tilly's Predatory Theory of the State had a big impact on the conventional literature on state-building and state development. It also brought attention to the factors that support efforts to establish stable governments and maintain peace in post-conflict countries as well as the link between the contemporary state and violence (Richmond, 2013a) (Tilly, 1975, 1985).

Some believe that maintaining extraterritorial peace and stability is crucial, particularly when a state is unable to engage in full-fledged international relations because it cannot provide public services and security (Andersen, 2012), (Gilley, 2006), and (Mcloughlin, 2015). Others, however, disagree, believing that strengthening real, long-lasting state institutions is crucial to fostering state building (Collier, 2008, 2002; Nay, 2013; Rice and Patrick, 2008). (Rotberg, 2010). In such circumstances, the state experiences a sovereignty gap that calls for outside help (Ghani and Lockhart, 2009) and (Fukuyama, 2005).

1.6.1.2 State Legitimacy

According to (G Holcombe, 2008) government has a duty to defend its revenue base and generates national defense to do so. By only having to contribute the government a small portion of their resources, citizens also gain from being safeguarded against internal predators.

A state is impossible to monopolize the use of force by definition if states experience civil conflict, according to (De Soysa and Fjelde, 2010). According to Skocpol (1985), "A state's capacity is determined by the amount of financial resources it has (such as its tax base), the degree of sovereign integrity it possesses, the loyalty and competence of its officials, the stability of its administrative and military control, and its ability to use resources (e.g., public goods provision).

Civil wars in the Middle East have not created conditions that would allow sovereignty to be redefined or separated from government; instead, parties to a war compete for control of and monopolization of the benefits brought about by international recognition (Heydemann, 2018). Additionally, in the cases of Syria, Libya, and Yemen, internationally recognized governments maintain central banks, issue economic regulations, enter into agreements with other nations, invest in public works, take on sovereign debt, pay public sector employees' salaries even in areas under insurgent control, and insist on their legal right to collect taxes (Heydemann, 2018).

The extent to which recognized authorities carry out the duties and functions of statehood and governmentality, however, shows little resemblance to the reality of fractured, contested, and distributed economic power in three conflict-torn states. However, none of the three recognized governments possesses the domestic attributes of sovereignty, such as complete control over territory, populations, and natural

resources, the exclusive right to use force in accordance with the law, or the capacity to exercise political or economic influence outside of the state's pre-war borders.

1.6.1.3. Failed State

A failed state is a nation where the government is unable or unwilling to provide its people with basic political goods such as public services. The state may have a seat in the UN and act as a sovereign body in local and international politics, but in the eyes of the majority of its citizens, the state fails them by failing to carry out state tasks adequately. Failed states are therefore those political entities in international politics that provide insufficient amounts and quality of political goods while also losing the exclusive use of strength within their borders.

One of the state failure signs happens when people can easily see small arms and light weapons trafficking over permeable borders are encouraged by weak or failed regimes, sometimes in cases of open armed conflict. Additionally, these nations are more likely to be home to the illicit business networks and activities known as "war economies," which flourish in nations with weak or non-existent legal systems. These states often have relatively low standards for healthcare, which leads to proportionately high rates of infectious diseases.

Due to the ineffective government regulation of environmentally harmful industrial operations, these states may directly or indirectly have a negative impact on regional environmental conditions. They also create a setting in which stubborn or aggressive governments can take power, abuse the privileges of sovereign statehood, or endanger regional security since there are no orderly institutions and accountable governance.

Last but not least, a number of studies have argued that weak or failing states may create a climate that is favorable for the creation or operation of terrorist organizations that may attack regional or global interests.

1.6.1.4 State Institutions

It is essential to comprehend what institutions constitute the state institutions are and how they can impact the frequency of conflict. Douglass North, a Nobel laureate, defined institutions as "humanly constructed regulations that regulate political, economic, and social interaction" (North,1990). Institutions can be created by both external players who can impose or impose them, as was the case with colonial designs

for constitutions, frontiers, and social institutions, post-World War II Japan and Germany, or more recently Afghanistan and Iraq. Formal institutions take into account both the established common standards that govern society and the legally binding political and legal entities such as bureaucracy, courts, and legislatures.

For instance, empirical research has shown that nations with institutions that uphold private property rights experience higher levels of economic development (Acemoglu and Johnson, 2005). According to (Fearon and Laitin, 1996), official and informal institutions typically serve to prevent conflict between various players, illuminating why ethnic fractionalization, for example, is probably the result of an activity. Therefore, it is essential to understand how disparities in institutional frameworks among states can impact the likelihood of war.

Because of this, the existence of established institutions is one way to explain why some Arab Spring countries, like Yemen, completely collapsed and were turned into war-torn, devastated regions, while other countries that experienced the same circumstances held together or partially survived, like Egypt and Tunisia.

"Good" institutions would be ones that enable correct expectation setting, coordination, cooperation, and communication amongst various groups or agents while preventing the emergence of violent conflict (Buchanan 1975). The structure of political and economic institutions that contributed to the failure should be changed while simultaneously guiding the economy and society away from a resurgence of violence, and we must admit it is not an easy mission (Makdisi and Raimundo, 2020).

1.6.1.5 Defining Conflict

The Correlates of War Project defines an intra-state war as one fought within a state's borders between a government and a non-governmental group (civil war) or, alternatively, as one fought between two or more non-governmental organizations (an inter-communal war). At least 1,000 combat-related fatalities result from intra-state conflicts each year (Small and Singer, 1982). However, when certain conflicts are characterized differently, the empirical findings on conflict may not be adequately robust. Some conflicts may be difficult to specify or code. According to Kalyvas (2007, p. 418), "Coding decisions are crucial in identifying the beginning and end of civil wars and differentiating between a single continuing but intermittent war or a succession of multiple discrete ones."

The functional analysis of conflict and civil war in "Above Greed and Anger Civil War Economic Dimensions" shows that, far from being dysfunctional or irrational, violence and instability frequently serve a range of political, social, and economic reasons for individuals (Berdal and Keen 1997; Reno 1998). Even while there is growing consensus that economics contributes to conflict, there is still a significant deal of disagreement over how it does so and how much it actually contributes compared to other political, societal, and identity-related factors.

Understanding the underlying causes of revolt is crucial. In contrast to the economics literature (such as Grossman 1991), which frequently identifies economic incentives (i.e., "greed") and opportunities for appropriating wealth as the primary causes of most rebellions, Collier and Hoeffler (2004) discuss how political scientists typically attribute group "grievances" (along political, social, economic, or ethnic lines, for example) as the cause of most rebellions. States have the authority to respond to citizen demands in a way that decreases the motive for political violence, even though conflicts can also be sparked by pervasive corruption, kleptocracy, ethnic bias, and Sobek (2010, p. 267).

Broadly discussing the outsider actors influence must be also taken into consideration while talking about how a conflict is caused.. It goes without saying that each international actor seeks its own interest whether gaining is short term or long-term objectives. Therefore, the context we put the conflict to study in is matter.

Circle of conflict in Yemen, for example, dominated by various of reasons - as we will study in detail in the next chapters, historical, political, geographical, regional, as well as economic altogether or separately or joined two or more components can be studied as a background of the bloody conflict continuing in the nation.

1.6.1.6 Economic Growth and Economic Development

Traditional theories of growth, which date back to David Ricardo (1891) and Robert Solow (1956), hold that the economy is a particular kind of machine that produces economic output, which is a function of inputs like capital, labor, and technology. Economic growth is the rise in output of goods and services from one time period to the next. Economic growth is therefore an important metric, if not the most important one.

A common technique to measure overall growth is to use a country's gross domestic product (GDP) or gross national product (GNP) (Ross,2022). According to (Feldman et al., 2014), economic development is characterized as the expansion of capacities that raise the potential of economic actors. The quality of any growth is more important for economic development than simple employment statistics or rates of output growth.

The work of macroeconomists, who place a high priority on economic growth, is based on quantitative measures such as the gross national product and aggregate income (Feldman, et al, 2014). The public sector is the only entity with the required long-term perspective and sufficient control over resources to make the required large-scale investments and to coordinate economic systems. As we transition from general capabilities to the specialized predecessors of innovation, there is evidence that public institutions and investments will play an increasingly important role (Block and Keller, 2009; Mazzucato, 2013).

1.6.1.7 Correlation Between State Building Phases and State Institutions

The link between pre- and post-war practices, particularly in the field of economic governance, shows the limitations of state fragility frameworks designed to boost the performance of underperforming states. Fragility is typically defined as the outcome of failing institutions that have detrimental social, political, and economic effects. It is widely held that fragility raises the probability of violent conflict. In addition to indicating the collapse of these institutions, violent wars also present opportunities for the emergence of post-conflict institutions that are more efficient, inclusive, and responsible.

State institutions may be inherited as a notion and established over time. The lack of a state legacy that can be inherited and expanded has been one of Yemen's most fundamental difficulties. After the Ottoman Empire left Yemeni territory, the extreme Hashemite family that ruled over the country for decades kept the country in the dark. The imams—as they referred to themselves—who effectively controlled every aspect of Yemeni life were convinced that they could not uphold their rule and religious advantages unless they prevented people from having any insights into the state and its institutions. This situation remained until the Republican Revolution of 1962, which restored popular rule and started, with Egyptian assistance, to build formal institutions

for the newly formed state. Even so, the Republican revolutionaries' divisions at the time and the continuous fundamental changes prevented the establishment of the state and institutionalization.

Unlike the northern part, there was a British colony in Southern Yemen. Nevertheless, after the British left Yemen, the socialist party that took control of the nation with Marxist Communist theorists who purposefully did not follow what already existed from the concept of the British state because they saw themselves as Communists and were ideologically unconvinced that their emerging state continued to be a capitalist one.

The legacy of pre-war administration is particularly clear in the way regime and insurgent forces establish wartime economic orders to further their political objectives in the situations of Yemen, Syria, and Libya. Despite Yemen's important geopolitical location and diverse terrain, it has suffered from its political elites' inability to build a strong governance system and has continuously felt victim to their competition. Thus, it is safe to describe Yemen as "a prototypical weak state characterized by poverty, underdevelopment, and poorly functioning state institutions." (Corstange, Daniel, 2008).

1.6.2 ORGANIZATION OF THE THESIS

Chapter One:

This chapter's introduction briefly discusses conflict definitions, state key concepts, and economic growth and development as the study's theoretical underpinnings. It also studies the historical and global reconstruction experiences from the 19th century when the reconstruction has been a topic of study. In 1815, David Ricardo studied the topic of post-war economic recovery and addressed topics including the redirection of financial flows toward peace initiatives (Coulomb, 2004). And John Stuart Mill went into more detail in 1848 about people's potential for recovery (even from catastrophic tragedies) (Coyne, 2005).

In this chapter, the research study's goal of reconstructing Yemen after the conflict is also briefly discussed, along with state legitimacy, state failure in Yemen, and the impact of economic growth on that goal.

Chapter Two

This chapter reviews earlier theoretical and empirical literature on economic recovery and growth. There is disagreement over the nature of the impact of economic growth on post-war reconstruction; some believe it to be positive, others believe it to be negative, and some believe it to be neutral. It discusses the theoretical and conceptual foundations of the study, reviews relevant theoretical and empirical literature, and investigates the impact of the topic on worldwide and Yemeni economic growth.

Chapter Three

The research methodology is discussed in this chapter, focusing on the methodical approach the research used to offer answers to the research objectives. The study's road map, which includes the data utilized for the study (gross domestic product (GDP), foreign direct investment (FDI), political instability, and oil rent), is openly discussed. The World Bank Databank is the study's primary data source. Both the study's model and the analytical strategy (descriptive statistics, correlation analysis, unit-root test, Johansen cointegration test, vector autoregressive (VAR), Granger causality test, and diagnostic tests) were effectively applied.

Chapter Four

The outcomes of the various analytical techniques used in the research are thoroughly discussed in this chapter in relation to the research purpose. Studies have shown that economic growth has strong correlations with GDP, political unrest, oil rent, and foreign direct investment (FDI) at various levels. Diagnostic analyses have also shown that the model fits the regression estimation assumptions.

Chapter Five

This chapter includes a comprehensive assessment of the research, authors' closing remarks recognizing GDP, political unpredictability, oil rent, and FDI as useful strategies for improving economic growth on a short- and long-term basis, and therefore on the reconstruction plans in Yemen, as well as recommendations for policy makers and more study on the subject.

1.6.3 CONCLUSION

The chosen economic growth factors have demonstrated their influence on Yemeni reconstruction plans, such as oil rent and political instability. For instance, studies have demonstrated that FDI is an external source of financing since domestic capital is insufficient and has an impact on the host country's economic growth. Strong macroeconomic frameworks are tools used by host countries to encourage FDI and boost the economy, but instability and corruption continue to be barrier concerns. FDI inflows into Yemen yet have little effect on the country's economic growth, which has prompted researchers to look into the theoretical justification for these inflows and empirically test their potential effects.

CHAPTER TWO: LITERATURE REVIEW

THE CASE OF YEMEN

2.0 Introduction:

In the past, Yemen's neighbors have exploited it to settle personal scores by capitalizing on regional tensions. Due to its crucial geostrategic location, Yemen has been a source of instability for both ancient and contemporary powers (Dashela,2022). As a result, Yemen has experienced geopolitical rivalry, and the nearly constant political and military clashes between Yemeni groups provoked outside intervention.

The factor payment system in Yemen is typical of low-income countries. Even before the conflict, urban areas had 2.5 times fewer individuals living in poverty than rural areas, and metropolitan households consumed 72.6 percent more per capita than rural households (Breisinger, et al 2020).

Fighting there has plagued the nation since late 2014 and the beginning of 2015, wrecking its economy, causing severe food insecurity, and destroying essential infrastructure. 24.1 million people will be "at danger" of hunger and illness in 2021, according to the UN, and 14 million of them would need immediate help (World Bank). (Revised: June 14, 2022). In Yemen, about 40% of people are considered to be below the poverty line (World Bank, 2013).

However, Yemen is neither ethnically, linguistically, nor religiously divided like other Middle Eastern countries are. Local, usually tribal, or economic, issues are more frequently the cause of domestic violence in Yemen (Dresch, 2006). Yemenis used their limited political space prior to the start of the 2014 war to protest their situation and call for improvements when they encountered more minor economic issues. Despite a growth of the political environment from 2012 to 2014 during the transition of the Arab Spring, political parties nevertheless lagged behind. In a survey about the difficulties facing youth involvement in political decision-making in 2013, young party members criticized how undemocratic their parties had become (Qasem ,2013).

2.1 Overview of Yemen's Political and Economic Situation:

Between 1967 and 1990, Yemen saw internal developments in both North and South Yemen as well as social and political shifts that necessitated the 1990 union of the two nations (Doost et al 2012: 97). According to the New York Times, on May 22, pro-western Yemen and pro-Soviet Yemen combined to form a new nation that would dominate the entrance to the Red Sea (NYT, 1990). The uneasy merging of two failed republics led to the creation of contemporary Yemen's unity (Cordesman ,2017). The newly constituted country had the difficult task of integrating two different economic systems.

As quoted in "Running Yemen Gets Even More Complicated," (Fleishman, Edwards, 2010) in The Los Angeles Times:

“Bribery, favoritism, and other types of theft are pervasive at all levels of governmental and private-sector activity; according to some estimates, up to 30% of government income are not declared.”

Since imports make up the vast majority of the country's essential products, there is still a lot of pressure on inflation, which is mostly brought on by rising import costs. According to the Central Bank of Yemen, the average food price inflation was projected to be higher than 30% in 2020. The World Bank forecasts that worldwide inflation will continue to skyrocket in 2021, reaching an estimated 45 percent, up from 35 percent in 2020, and that real gross domestic product will contract by 8.5 percent. In short, Yemen was already one of the world's poorest countries in 2014 with a GDP per capita of 1,351 USD (290,000 YER) and nearly half of the people living in poverty.

It is crucial to remember that the high rate of economic growth in some years changed into a lower rate of growth in GDP per capita due to the high rate of population growth in those years (Badeeb and Lean, 2017).

2.1.1 Yemen Prior to the Complete Bankruptcy in 2014

Yemen's economy had exhibited a number of Poor characteristics before to the crisis (Schwab & Sala-i-Martin 2017). Such traits are supported by the relatively high weight of the primary sector in total GDP (12.6 percent for agriculture and 23.0 percent for mining), the small share of the secondary sector (e.g., 1.7 percent for non-food manufacturing with high import intensity), and the relatively high weight of the

government sector (11.4 percent of GDP) (Breisinger et al ,2020). Even though the majority of the nation's exports are crude oil and its derivatives, several essential commodities are significantly dependent on imports.

Right after the unification of Yemen in 1990, Yemen was overrun by tens of thousands of Gulf migrant workers before it could start to reap the benefits of unification, though. Yemen was affected by the massive influx of returns, especially in light of the structural changes that had occurred over the previous 20 years. With the start of the Gulf War, the labor of Kuwait, Saudi Arabia, and Iraq's expatriates flocked to Yemen. Yemen's backing for Iraq during the conflict increased this return. As a response, Saudi Arabia demanded that all Yemenis living in the Kingdom obtain work permits and partnership with Saudi Arabia. Yemen is reported to have taken in 880,000 returnees in a matter of months (Colton, 2010).

Only four years had passed since Yemen's unification when a civil war broke because some southern leaders wanted to secede and return to the pre-1990 era. However, the forces of the north prevailed and kept Yemen united until the southern separatists reappeared in 2007. Southerners persisted in calling for greater autonomy within Yemen, claiming that the Saleh's regime of dictatorship in the north had ignored and disadvantaged them. Relatively, the Houthi movement, which is a violent fundamentalist religious movement, whose base is among the Zaydi Shiites of northern Yemen, rose up militarily against Saleh's government six times between 2004 and 2010.

Researchers and specialists from the early stages of the field continuously raise the alarm about the potential collapse of the fragile state. Thomas Juneau stated in (2010) that there was a good chance that governmental authority in Yemen would significantly deteriorate in the years to come as a result of various forces. The state may fail completely or even just partially as a result of this, which would have significant regional and global repercussions.

The increase in unemployment and poverty has particularly alarmed Yemenis. Over half of the population was said to be living on less than \$2 per day in the first half of 2010, with unemployment as high as 40%. Yemen suffers from an extremely low income and human poverty.

In 2013, as part of the GCC's plan for a transition, the UN-sponsored National Dialogue Conference (NDC) convened 565 delegates to develop a new constitution that would be acceptable to Yemen's many communities. Unfortunately, the NDC came to an end with delegates unable to settle all of the nation's complex problems, which alongside with selfishness and the continued disagreements between the country's major political parties made an already unstable situation even more fragile. Consequently, the Houthi Movement resurfaced in 2014 as an armed force, abusing Yemen's problems to attempt a military coup, seize Sanaa as the country's capital, and launch an all-out war throughout the nation (Robinson, 2022).

(Al-Sabai, 2020) in his doctoral dissertation had claimed that: Yemen's development had already encountered a variety of interrelated difficulties before the present crisis. These included inadequate infrastructure, a workforce that was significantly undertrained, an unfavorable investment environment, a lack of resources, an economy that was overly dependent on oil, corruption, state weakness, the employment of elite, and attempts to resist changes.

2.1.2 The Eternal Dilemma of the Scarcity of the Economic Resources in Yemen and Fighting over the Limited Economical Resources.

As elites fight for their piece of the pie, political tension over diminishing oil revenues in the years before real depletion should worsen (Robinson, et al., 2006). Chatham House in the report examines the common economic factors that continue to drive conflict in Iraq, Libya, Syria and Yemen announced that the framework of the "political economy of war" offers novel approaches to reducing entrenched and competitive violence. The term "competition violence" refers to violence "deployed by contending elites to dispute or protect the prevailing distribution of power.

Armed factions frequently use the backdrop or objectives of war to excuse corruption, utilizing it to increase their grasp on power. Because they have no other option, regular people turn to corruption and unlawful business practices to get by during times of war or economic sanctions (Keen D,1998). A Letter dated 25 January 2022 from the Panel of Experts on Yemen, addressed to the President of the Security Council, reported that:

“(Houthis) utilize a variety of strategies, including the use of violence or the threat of violence and harsh regulatory measures, to enrich themselves and

support their operations. These include the seizure of the assets and cash of people and corporations as well as the collecting of illegitimate taxes and fees from highly lucrative economic sectors like oil and telecoms.”

According to empirical research, people with low resources may prefer to engage in conflict since there aren't many options for them to make money outside of it than there are in the "conflict industry.” (Christopher J. et al, 2011).

Three factors—income per capita, the availability of natural resources, and the degree of social inequality—were selected as the proxy for the motivation for revolt in an effort to gauge future government military spending and revenue-raising capabilities (C. Cramer, 2002). The empirical evidence from the current situation of Yemen clearly suits with that since the bloodiest battles focused in Marib, Shabwah, Taiz, and Hodeida administrations where the nation’s most natural resources and the big size of population exit.

2.1.3 Cycles of Conflict

Research on civil war and popular practitioner frameworks for lessening violent conflict and reestablishing war-torn communities and economies have not fully taken into account the persistence of authoritarian norms and behaviors during civil war (Heydemann, 2018).

Yemen has a history of instability and has proven as an example of how strongmen may control a country for years before likely causing a civil war (Cordesman, 2017). The Project on Middle East Political Science (POMEPS) states that, the current conflict in Yemen is frequently seen from the perspectives of the Houthis, who are backed by Iran, and the international recognized government, who is backed by the Gulf. But this binary is quite deceptive. Because of the complexity of the Yemeni conflict, any analysis should take into account a wide range of factors, including historical, geographic, regional, and of course economic ones.

The wildly unrelated conflicts in Yemen are connected, ranging from Southern separatism, the uprising of radical extremist organizations like al-Qa'ida in the Arabian Peninsula, the popular protests that overthrown Ali Abdullah Saleh's long-running regime in the Arab Uprisings of 2011, to the Houthi-dominated rebellion that seize power by violence in late 2014 (Obinna U. M, Obasuyi, 2020). Moreover, the inability

of the Yemeni state to effectively provide public goods and critically needed infrastructure has been a weapon used by aggressors' groups like the Houthis who take advantage of this failure.

The Houthis clashed with the Yemeni government multiple times between 2011 and 2014 (Obinna U. M, Obasuyi, 2020). Nevertheless, the majority of observers can agree on describing the war in Yemen as a proxy war. A proxy war occurs when a major power instigates or plays a major role in supporting and directing a party to a conflict but does only a small portion of the actual fight itself. The most widely known use of proxy measurements for rational choice models of violent conflict or civil wars currently is in the work of (Collier and Hoeffler).

NDCs are one of several crucial tools that can help with political transitions following a regime change. To facilitate these transitional processes, external actors frequently take on a range of responsibilities. Prior to its downfall, the National Dialogue Conference (NDC) and Yemen's transition were seen as some of the most successful models for other Arab Spring nations to imitate (Kronenfeld and Guzansky, 2014).

2.1.4 Political Economy in the Political Settlements

As Leventolu and Slantchev (2007) point out, most conflicts are settled through negotiation. Nonetheless, agreements are not enforceable when commitments lack credibility. Conflict resolution between rebel groups and government agencies might be hindered by issues with credible commitment. The credible commitment issue, which results from time inconsistency among political leaders in the setting of dynamic economic planning, was initially noted by Kydland and Prescott in 1977. Contrarily, time inconsistency happens when political actors have incentives to back out of prior agreements or declarations of intent, and contracting is consequently imperfect in equilibrium (Christopher J and Pellillo.2011).

The relationship between the trade in natural resources, global financial flows, and armed conflict has come to light as a result of the fact that many contemporary conflicts are self-funding. Controlling and managing these resource flows through regional and international "control regimes" has become a significant conflict resolution tactic for policymakers in the capitals and the UN Security Council (Cooper 2002; Sherman 2002).

When shadow economies become entrenched, it poses a severe threat to post-conflict reconstruction and peacebuilding. Mafia structures in Kosovo and Bosnia, for example, are attempting to strengthen their position of power in the precarious post-conflict environment by taking more control of the local political and economic systems. These groups have benefited economically from the conflict and externally imposed sanctions regimes (Pugh 2002; Andreas 2004).

To promote coordinated policy action among third parties and to link peace agreements with post-conflict economic recovery programs, IFIs should be involved in peace processes, whether formally or informally (Nitzschke,2003). Incentives for illegal businesses to enter the legal sector are needed, along with increased governmental capacity for basic services, security, and jobs.

Simply put, some disputes may have outcomes that are value-enhancing in the medium to long term whereas others may have alternative outcomes, according to Khan's (1995) concept of rent seeking. This would depend on the "political settlement" created by the war, which would then depend on the political economy of change that led to the conflict in the first place. However, in many instances, it is still too early to make a decision about this outcome (C. cramer,2002).

2.1.5 Inability to Warrant Sustainable Peace by Ignoring the Economic Effects

Each conflict has a different background, dynamics, and stakeholders. However, some concerns are common and need to be answered if the peacemakers want the war to be ended and prevent its reoccurrence. Among other questions, what drives the main players to participate in the economy of war? Jonathan Goodhand suggests a particularly helpful categorization of "fighting," "shadow," and "coping" economies to accurately examine the many roles played by war economies (Goodhand 2004).

Scholars and practitioners are now turning their attention to how to help states make the transition from war to peace economies (Spear,2007). Due to the complex nature of today's conflicts, policymakers are faced with a dual challenge: determining with accuracy how discrete economic behaviors affect conflict dynamics; and creating and implementing efficient policy solutions for conflict prevention, resolution, and transformation. The ways to make peace more profitable than conflict is the main concern from a political economy standpoint (Ballentine and Nitzschke, 2005).

In their latest report about Yemen in January 2022 the international crisis group declared that it is impossible to imagine the parties negotiating a lasting military ceasefire if they fail to also agree an economic one, even though the economic aspects of Yemen's conflict are not the sole obstacles to peace. Experts from Yemen and other countries believe that enhancing the economy is essential to battling extremism. Getting economic growth to in fact help the people of Yemen is a significant element of that difficulty; this may be more difficult than simply increasing the GDP. Yemen's GDP was 70% derived from oil exports, a source of income that may be depleting too quickly for gas exports to take its place. Tourism, agriculture, and fishing are all areas of the economy that are stagnant (Stephens, 2010).

2.1.6 War Phase and the Complete Bankruptcy from 2014 up to 2022

According to the international crisis group, while the Houthi military coup and the subsequent collapse began in September 2014, the economic battle started in the course of 2016 and 2017 and has since gotten sharper and more intertwined with Yemen's shooting war. The division of the central bank into rival administrations in Sanaa and Aden, and the sharp decline in the value of the rial in areas that are ostensibly under government authority are its most obvious characteristics.

Due to the country's heavy reliance on the import of essential goods and consumables, the Yemeni rial's fast decline in value has put significant inflationary pressure on retail prices. The nation's institutions and economic system have been systematically fragmented as a result of rival systems of power. The Yemeni rial's value fell to historic lows in 2021, which led to sharp rises in food costs and drove more people into abject poverty.

The rapid deterioration of socioeconomic conditions has been attributed to a fall in remittances, disruptions in trade, severe fuel supply problems, and a reduction in humanitarian activities. Rising violence and fragmented macroeconomic policy have put additional weight on already precarious economic conditions. 16.2 million people are malnourished and in need of emergency assistance, which is a frightening amount. The Yemeni rial was continuously under inflationary pressure as a result of waves of currency devaluation in 2018 and 2019, which exacerbated the humanitarian crisis (World Bank, 2022).

Geopolitically, the Saudi military engagement in Yemen in 2015 was also partly prompted by the belief that Iran is aiming to change the balance of power in the area while attempting to undermine its influence in Yemen and encircle it (Obinna U. and U. Obasuyi, 2020). Many have claimed that this was a proxy conflict between Saudi Arabia and Iran; others have claimed that it was the result of a brutal inter-sectarian conflict in Yemen; still others have claimed that it was an effort by a regional power to establish its domination over a poor neighbor.

According to the most recent numbers from 2020 supplied by DG ECHO of the European Commission, Yemen's humanitarian situation is dire: 82% of the country's population, or 21.2 million people, need humanitarian relief; 14.1 million need food aid; 14.1 million need basic medical treatment; 7 million are in famine-like situations; and 2 million have been forced to flee their homes because of the fighting. On BBC News in August 2015, Peter Maurer, the head of the International Committee of the Red Cross, said that "Yemen after five months of civil war looks like Syria after five years" (Jacqueline Lopour, 2016:2).

Yemen is in the midst of a severe economic crisis that makes it difficult for the government to maintain essential public services after seven catastrophic years of war. 2020 saw a sharp decrease in Yemen's economic output as a result of the COVID19 pandemic's compounding impact on already fragile elements. In 2021, the annual GDP was expected to have decreased by another 2%, or around half of its pre-conflict level. Yemen Economic Monitor (YEM) in the recent reported that the war had interfered with the payment of civil service salaries in this situation, substantially disrupting important services and weakening attempts to protect human capital and stop the continuing deterioration of human development results.

However, the story goes much deeper than the civil conflict. Yemen has never seen true national harmony, efficient government, or a successful economy (Cordesman, 2017).

Functioning of the Economic Growth Factors

2.1.7.0 Introduction:

Instability in macroeconomic policy and escalating violence have put additional burden on already precarious economic conditions (World Bank, 2021). 2020 witnessed a significant decrease in the flow of remittances as a result of the Covid-19 pandemic and aid flows decreased by 47%, compared to 2019 (Economic Indicator Report, 2020).

Although Yemen's private sector employs more Yemenis, the brief international attention on the country's economic downturn frequently concentrates on the public sector and tends to ignore the enormous difficulties it has also encountered.

A crucial turning point in the development of two separate, or more precisely, even conflicting economies was the Houthi-controlled CBY in Sana'a's decision to outlaw the newly created local currency that was issued by the financial authorities of the internationally recognized government, which was the action laid the stage for resulted in the banking industry being immediately drawn into the continuing crisis in Yemen (Economic Indicator Report, 2020). Moreover, the central bank system was having trouble with functioning. Prior to the conflict, Yemen's Central Bank had around \$5.2 billion in foreign reserves, but those balances have now been reduced to insignificant sums. Imports of essential items and the nation's exchange rate cannot be fully supported by the Central Bank at this time.

In summary, Yemen is not a functioning state presently. State functions have not worked in the country since September 2014 (Al-Sabai, 2020).

In the following, the researcher is going to study the most significant factors that effecting the economic growth specially in Yemen.

2.1.7.1 Yemen's Gross Domestic Production (GDP)

The expansion of a country's economy through time is referred to as "economic growth". A country's economy is typically measured by its gross domestic product, which is the total amount of goods and services generated there (GDP).

According to the most recent statistics about the country's GDP annual growth (Trading Economics) Yemen's GDP per capita was 690.8 US dollars in 2021. However, Yemen's Gross Domestic Product (GDP) fell by 2% in the fourth quarter of

2021 compared to the same quarter the year before. In 2021, Yemen's GDP per capita is expected to grow by -4.2% (World Bank, 2021).

In addition to (World Bank) Certain sources reported that, the GDP per capita is expected to reach 348.00 in 2023. Prior to the 2014 financial crisis oil and gas revenues made up about 25% of the GDP and 65% of government revenue. The majority of Yemen's economic support comes from foreign aid and remittances from citizens of the neighboring golf states. The largest industry is oil extraction, which accounts for about 25% of the GDP and 70% of government revenue despite being in decline. Nonetheless, the successive Yemeni governments have been trying to diversify the economy in order to reduce reliance on oil in recent years. As a result, there was an increase in investment in the construction of infrastructure for the extraction of natural gas. However, the political unrest of 2011 has hindered efforts at growth, led to infrastructural damage, increased unemployment, and excessive prices (Trading Economics, n.d.). Given that agriculture employs more than 50% of the workforce, it is also quite significant to mention here.

2.1.7.2 The Concept of Political Stability

Political instability and economic growth are closely related, as both literature and experience have demonstrated. Political stability is defined as: "The ability of the political system to carry out its functions, respond to popular demands, and adapt to changes in its internal and external environment in a way that gains the political legitimacy necessary for its continuation and prevents it from being exposed to any acts of violence or conflicts that are difficult to control by peaceful means and within the framework of commitment constitutional rules" (Mekkawi, 2019).

Because stability has positive effects on the growth and development of people, societies, and states, it is a goal that all nations and societies seek without exception, and strategies and plans are made for it. However, political stability is a prerequisite for renaissance and development as well as a crucial requirement for growth and advancement. Without it, society cannot experience any economic, educational, or cultural development.

Yemen is one of the few Arab nations that has a multi-party system (Schmidinger, 2010). However, the rule in Yemen was referred to as "dancing on the heads of snakes," according to former president Ali Saleh (Clark 2010).

2.1.7.2.1 The Economic Dimension of Political Stability

The peaceful transfer of power and the legal transfer of power within the state, the legitimacy of the political system, the cessation of civil wars, with others, are the indicators of political stability (Al-Obaidi, 2017). According to these indicators, the situation in Yemen is not fully available because it is in a state of transition from stage to stage, and what is present in one stage is absent in another, indicating the absence of a state of political stability. Even when there is some form of political stability, it is only relative stability. In fact, a lot of its instability signs are soon exposed to loss.

In all nations, economic stability is regarded as a general indicator of political stability. When the political system is stable, economic goals are the focus of its policies. A type of certainty and public satisfaction with the political system are produced by development programs that increase people's quality of life and welfare (Bani, 2017). As a result of each state, the private sector, and the public sector investing large economic operations to revive the internal market.

Conflict and low per capita incomes are related in both positive and negative ways. Conflicts "devastate life, health, and living standards," according to Blattman and Miguel (2010, p. 4), therefore it's possible that having a low income can cause and exacerbate a conflict. Low GDP per capita, negative income shocks, and slow economic growth have been identified as some of the most important predictors of conflict, particularly political instability (Collier and Hoeffler 1998, 2004), and others. In summary, poorer countries experience a significantly higher level of conflict than their wealthier counterparts.

2.1.7.3 Foreign Direct Investment

The relationship between foreign direct investment (FDI) and economic growth has sparked a large empirical literature focusing on both industrialized and developing countries. Neoclassical and endogenous growth models are the foundation of the vast majority of empirical studies on the FDI-growth link (Chowdhury and Mavrotas, 2003). So, FDI appears to be a large source of capital, complements local private investment, frequently creates new job opportunities, enhances knowledge transfer,

and generally promotes economic advancement in host nations, according to empirical research on the topic.

It should also be mentioned that FDI has potential positive traits that have an important influence on the standard of growth and the battle against poverty. It could improve corporate governance and minimize the negative shocks that the poor experience as a result of financial instability. Additionally, FDI generates revenue that could be used to help create a poor support system (Klein et al., 2001).

A large body of research on the factors that influence FDI in developing nations strongly supports the idea that sound institutions, macroeconomic stability, and infrastructure are crucial for attracting FDI flows.

In 2006, Yemen received just \$144 million in total foreign investment, indicating that investors were wary about committing capital. At donor conferences held in The Hague in 1995, London in 2006, and London in 2010, more than \$5 billion in assistance was promised; however, the World Bank found that Yemen only received 10% of the 2006 package because the country disregarded the conditions for political and economic restructuring and transparency.

2.1.7.4 Energy Sector (Oil Rent):

Since the start of the nineties, oil and gas exports have continued to be the Yemen's primary sources of income. At its peak of 466 thousand barrels per day in 2001, oil production fell to its lowest level of 11,000 barrels per day at the start of 2017. Before the war, production fluctuated between 100 and 150 thousand barrels per day (Economic Indicator Report, 2020).

Natural resource income has been by far the greatest portion of Yemen's gross domestic product (GDP) since the discovery of oil in 1984. As a result, the main contribution has been energy revenues to the government's budget (Robinson et al., 2015). However, Yemen was forced to rely on imported gasoline as a result of the shutdown of its oil and gas facilities. For both seasoned players and those hoping to profit from the nation's fuel demands, this move offered a huge chance for financial gain. The withdrawal of oil that was subject to government subsidies, as well as the opening up and privatization of the market for fuel imports, gave fuel importers an

additional incentive to fill the gap left by the government-run Yemen Petroleum Company (YPC).

Fuel imports have been Yemen's energy sector's most profitable division during the crisis. Imports of petroleum gained significance in 2015 as a result of two major events: a dramatic drop in domestic oil and gas output, the end of oil and gas exports, and the emigration of foreign energy corporations were the first impacts of combat on the ground. Second, on July 27, in 2015, the (Houthis) decided to withdraw gasoline subsidies and loosen fuel import limits. A year before, they had launched a public opposition campaign against Hadi for doing the same things.

Both the ability of elites to engage in corrupt behavior and the impossibility of the political economy of corruption in Yemen from continuing permanently are significantly influenced by oil. Depending on the market price, oil contributes between 80 and 90 percent of total government revenue in Yemen.

Nevertheless, Yemen's oil production is constrained, and there aren't many reserves; it will run out of oil in roughly 10 years (USAID, 2021). Also, Yemen's oil production has been steadily declining. If international oil prices don't rise consistently and steadily, the country's foreign exchange revenues will continue to decline, making it harder to pay a rising import bill (coming from both increased demand and decreased output).

CHAPTER THREE: METHODOLOGY

3.0 Introduction

An organized approach to addressing the research topic is known as research methodology. One way to think of it is as a scientific study. In other words, the research challenge can be solved methodically using research methodology. A field of study's approaches are systematically and theoretically analyzed in methodology "Exploring research methodology: International Journal of Research and Review" (Patel M, Patel N, 2019). It involves a theoretical evaluation of the collection of rules and guidelines.

This chapter goes into detail on the research strategy, the choice of analytical methods, and the research methods used by the researcher in an effort to justify the relationship between economic growth selected parameters in Yemen and the anticipated challenges for the post-war economic revival.

3.1 Research Design

The framework of research methodologies used by the researchers is referred to as the research design. There are three primary types of research design; data gathering, measurement, and analysis (Nurhayati, 2020). The quality of the data is generally developed and the bias in the data is minimized in an effective research design, which increases the likelihood that the research would produce the intended results.

3.1.1 Research Initiation

The researcher began the research study by outlining the difficulties associated with reconstructing the political economy in post-war Yemen in relation to the pre-war circumstances and the components of economic growth. The research dilemma, namely, gaps in information about the war economy and the impact of a country's economic growth, is identified in the introduction chapter and is shown to be problematic for any future plans in Yemen.

In order to close this gap, research questions were developed in light of the identified research issue that served as the drive for the study's predetermined objectives.

Table 3.1.2 : Research questions and research objectives

Assumptions	Main objectives
Whether there is any theoretical support for how economic growth affects Yemen's post-war reconstruction.	examining conceptually the basis for the effects of economic growth on Yemen's post-war reconstruction.
Whether there is any empirical support for the relationship between economic growth and post-war reconstruction in Yemen.	investigating empirically how economic growth affects post-war reconstruction in Yemen.

3.1.3 Review of Literatures

The importance of literature review is profound when conducting a research with solid foundations. As Ridley (2008) stated: "The literature review is where there is considerable reference to relevant research and theory in your field; it is where links are created between source texts you draw on and where you position yourself and your research among other sources,".

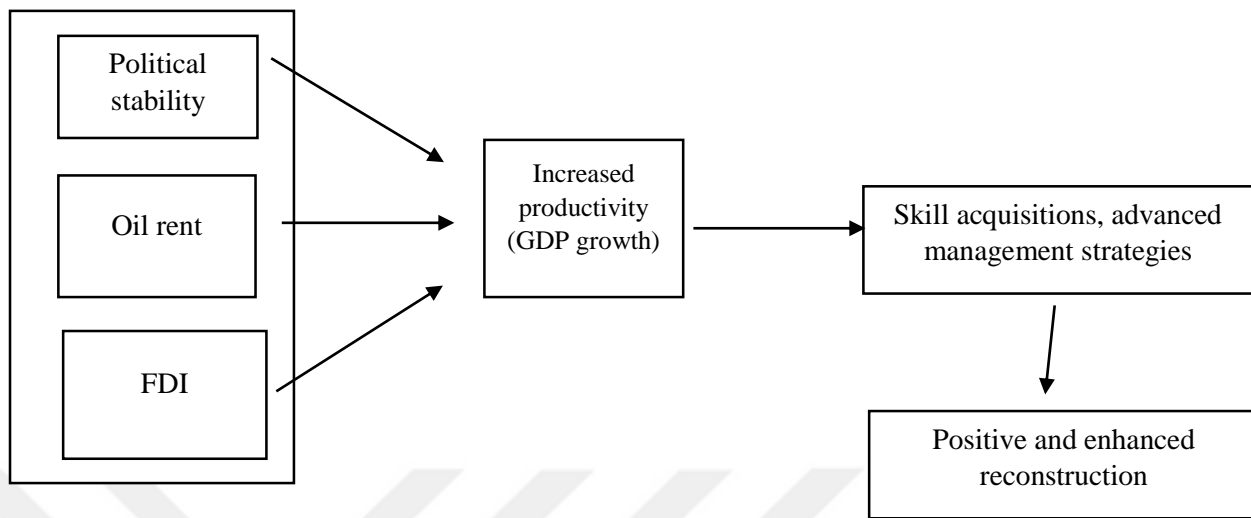
In order to find as many materials as possible that are relevant to a certain topic, a literature search is "a systematic and thorough search of all sorts of published literature" (Gash, 2000, p.1). In the literature review, we therefore included theories and earlier studies that influenced our choice of research topic and methods.

3.1.4 Conceptual framework

Maxwell expounds that "The objective is not to describe what has already been done in the field" (Maxwell 2005). As opposed to it, the objective serves to "place your planned study in the relevant earlier work, and to provide the reader a clear sense of your theoretical approach to the phenomena that you want to study". It also helps one justify your research challenge and guides one’s research questions and methods, thus showing why the given research is important. The goal is to validate or put theory to the test. The theory serves as the whole study's framework, a model for organizing the research questions or hypotheses used in the data collection process (Creswell, 1994, pp. 87-88).

Figure 2.1.

Neoclassical growth factors (Solow-Swan)



3.1.4 Data Sources

Instruments used to collect data are referred to as data collection tools. Given that research is conducted using a variety of methodologies and objectives, choosing the equipment for data collection is crucial for an accurate analysis (Nurhayati, 2020).

Therefore, the research study makes use of timeseries data on variables such as gross domestic product growth (annual, %), foreign direct investment (FDI), energy sector, and political instability, that span the years 1990 to 2020. The World Bank's databank's global development indicators were used to gather information on the selected variables.

To accomplish the study goals and provide answers to the research questions, a research model is chosen and empirially tested using the data that was acquired.

3.1.5 Model Specification

In order to analyze the relationship between determining variables and the impact of economic growth components on the economic recovery in post-conflict Yemen, the study uses the Solow-Swan neoclassical endogenous growth model and the Dunning's OLI framework.

3.1.6 Research Hypothesis

H₀: Pre-war conditions still, and will, affect the future of Yemen.

H₁: economic growth components have a severe impact on the Yemeni reconstruction planning.



3.1.7 Variables Under Study:

The GDP, oil rent, political instability, and FDI are all vital factors to take into consideration while studying the economic growth and development challenges facing the country after the conflict because the study's objectives are in the area of Yemeni economy. These indicators can help illustrate the scope of the harm and the difficulties Yemen encountered as it attempts to recover and rebuild after the war's destructive effects on the economy. The reasons why these particular parameters were chosen will be more fully explained in the lines that follow so that readers can see the situation clearly.

Gross domestic product (GDP), is a commonly used measurement of an economy's size and health. The export of oil accounts for the majority of Yemen's GDP. Consequently, oil rent indicates the revenue a nation receives from the selling of its natural resources, including its oil. Fluctuations in oil prices can significantly affect the amount of economic activity in countries like Yemen where the oil industry plays a key role in the economy. Political instability is the third indicator we looked at in this study which can also have a severe effect on economic expansion. Political instability might discourage investors and economic activity. Additionally, FDI (foreign direct investment) is a significant indication of economic growth and can be used to promote it.

3.1.7.1 Gross Domestic Product Growth (GDP)

GDP determines the monetary value of the consumable goods and services produced in a country during a given time period, such as a quarter or a year. It takes into consideration all the output produced within a country's borders (IMF). GDP is made up of goods and services produced for market consumption as well as certain nonmarket production, such as defense or educational services offered by the government.

3.1.7.2 Political Stability

The global quality of governance index is created by La Porta et al. (1999). They separate variables relating to government quality or political stability into five categories and discover that wealthy countries have better governments than poor ones. Better governance can be found in countries with homogeneous ethnic and linguistic

populations. The degree to which governments meddle with the private sector is likewise closely tied to their effectiveness. Political stability measures are strongly tied to the success of the private sector as a whole and will also have an impact on the performance of FDI inward. According to Lucas (1990), political instability attracts more capital flows, which increases the likelihood that FDI would perform better.

3.1.7.3 Foreign Direct Investment (FDI)

Foreign Direct Investment is an enterprise created in an economy (individual enterprise, anonymous or regular public or private enterprise) may invest abroad in order to establish a long-term partnership in another nation (Şahin, 2020). One of the main goals is stable, sustained growth, which also serves as the foundation for rising wellbeing. To enhance production capacity with the necessary structural change, it is necessary to take use of foreign direct investments (FDI), local resources, and saving-investment activities. One of the topics that is widely addressed in the literature, both theoretically and practically, is the relationship between foreign direct investments (FDI) and economic growth. One issue that must be emphasized is the function of the many channels via which FDI encourages economic growth (Bayraktutan and Özgür, 2016).

3.1.7.4 Oil Rent

The reunification of Yemen in 1990, forced to change its economic emphasis from remittances to oil, is characterized by an economic crisis, oil dependency; hence resulting in GDP of Yemen becoming primarily driven by oil rents.. Oil rent exceeded agriculture in 1993 and have since accounted for significant amounts of value, reaching a peak of 40% of GDP. These rentals naturally fluctuated with the price of oil before falling when reserves were depleted (Dawud, 2016). Yemen's economy clearly depends on oil, thus making it unsustainable, and continues to become more industrialized as both manufacturing and agriculture have experienced major declines over time. Agriculture used to make up about 25% of the country's GDP, but it has subsequently declined to fewer than 10%. Yemen's manufacturing sector, which had previously been weak, saw a decline from 19% in 1990 to a low of 5% in 2008.

3.2 METHOD OF ANALYSIS

A series of tests are conducted with the goal of experimentally examining the influence of economic growth on recovery in Yemen and examining the link with the specified determining factors; these tests are briefly reviewed in this section.

3.2.1 Pre-Tests

Pretesting is a well-known method for increasing the reliability of qualitative data collection procedures and the interpretation of findings (Bowden, Fox-Rushby, Nyandieka, & Wanjau, 2002; Brown, Lindenberger, & Bryant, 2008; Collins, 2003; Drennan, 2003; Foddy, 1998). The strongest possibility of obtaining dependability and rigor in qualitative inquiry and analysis is through the pretest interaction to self-correct between design and execution, which is encouraged by the very nature of qualitative research as an iterative rather than a linear process (Morse, Barrett, Mayan, Olson, & Spiers, 2002).

3.2.2 Unit Root Test

Trending or nonstationary time series data are frequently encountered in time series modeling. Unit root testing is a crucial step when working with time series data. The concept of non-stationarity is frequently used interchangeably with unit roots. When all of a time series' statistical properties remain constant over changes in time, it is

called 'stationary'. As a result, the Phillips-Perron (PP) method was utilized in this work to verify the dataset's stationarity. The unit root test is especially crucial for this study because the estimate technique used in it requires that none of the variables under examination be stationary at second difference $I(2)$. See; (Phillips and Perron, 1988; Nkoro and Uko, 2016). (Phillips and Perron, 1988; Nkoro and Uko, 2016).

3.2.3 Granger Causality Test

Researchers examined the causal connection structures between variables using the Granger causality technique. The Granger causality test is a statistical hypothesis test for determining if one time series is useful for anticipating another (Wei, 2016). Granger causality, however, just illuminates the possibility for forecasting, according to (Eric, 2021), and it provides no comprehension of the true causal relationship between two variables.

3.2.4 Vector Autoregressive (VAR) Model:

The vector autoregressive (VAR) model, a multivariate time series model, links the historical data of one variable in the system to its historical observations as well as to other variables in the system. VAR models are different from univariate autoregressive models in that they provide feedback between the variables of the model (Eric, 2021). To show how real GDP and policy rate are both functions of real GDP, for example, one may use a VAR model.

3.2.5 Lag Length Test

Granger causality tests can produce inaccurately statistically significant results if the underlying vector autoregressive (VAR) model's lag length is overfitted, which is more likely the smaller the sample size. Standard study designs can have overfitted lag lengths, which increases the potential for p-hacking. P-hacking is the practice of researchers doing a lot of analyses but only choosing the ones with statistically significant results to be published (Simonsohn et al., 2014).

3.2.6 Cointegration Analysis

Cointegration techniques have been widely used in practical economics. Time series analysts now have an additional approach for the analysis of these variables thanks to

the existence of the error correction term, as demonstrated by Engle and Granger in 1987.

Engle and Granger (1987) proposed the first definition of cointegration as a single equation model; however, this definition has since been superseded by Johansen's (1993) systems of equations (multi-equation) method (1988, 1991, 1995).

3.2.6.1 Johansen Cointegration Test

We employ Johansen's technique to determine whether three or more time series are cointegrated. It more thoroughly assesses the reliability of a cointegrating relationship. Additionally, it is used as a technique to calculate and estimate the number of relationships (Wee & Tan, 1997). In order to count the cointegration relationships (equations) between the explanatory variables and the response variable of the stated models, the Johansen cointegration test is used in the research project (ee, Naidu et al., 2017).

However, because it is a requirement for the tests that the timeseries be integrated in the same order, the Johansen cointegration test cannot be employed in the presence of a mixed order integration.

3.2.7. Diagnostic Tests

It is essential to carry out residual diagnostic tests following the ARDL cointegration analysis in order to check the residual's properties in accordance with the normality, serial correlation, and heteroskedasticity criteria as well as the stability of the estimated model.

3.2.7.1 Normality Test

The normality test is an important step in selecting the central tendency measures and statistical methods for continuous data analysis. When our data have a normal distribution, we compare the groups using parametric tests; otherwise, we utilize nonparametric methods (Anaesth, 2019). There are numerous methods for determining whether data is normal, including numerical and visual ones, each of which has advantages and disadvantages.

The general criterion for this test is that the null hypothesis (Skewness = 0) cannot be rejected if the Jarque-Bera probability (p-value) is higher than 0.05, indicating that the residual is normal and the model is well-fitted. If the Jarque-Bera probability is less than or equal to 0.05, the null hypothesis is refuted, demonstrating that the residuals are not normally distributed (see Büning and Thadewald, 2004).

We examine the performance of several tests, including the well-known Jarque & Bera (1980) test, the Kuiper (1960) and Shapiro & Wilk (1965) tests, to test for normalcy. The independent random variables (model I) and residuals from the standard linear regression serve as the foundation for the tests for normality (model II). The test is more powerful than its competitors for symmetric distributions with medium to long tails and for slightly skewed distributions with long tails. The Jarque-Bera test has low power for distributions with short tails, especially if the shape is bimodal; in rare occasions, the test is even biased. A modified Shapiro-Wilk test or the Cramer-von Mises test may be recommended in this case.

3.2.7.2 Serial Correlation Test

Serial correlation in a time series occurs when a variable and a lagged version of itself (for instance, a variable at periods T and at T-1) are seen to be correlated with one another through time. Repeating patterns typically exhibit serial correlation, which occurs when a variable's present level affects its potential future level. Financial technical analysts utilize this correlation to determine how well an investment's historical price predicts its future price (Banton, 2021).

The model must be devoid of serial correlation in order to execute regression estimation, necessitating the use of uncorrelated residuals. Given this, the serial correlation LM test developed by Breusch and Godfrey in 1978 is used to determine whether serial correlation exists in the model.

The usual requirement for this test is that the null hypothesis ($1 = 2 = 3 = \dots = n = 0$) cannot be ruled out if the F-statistic of the B-G test is greater than 0.05. As a result, it may be concluded that there is no serial link between the series and the order of p delays. However, if the F-value is 0.05 or less, the null hypothesis is disproved, demonstrating the existence of serial correlation (Lopes, 2021).

3.2.7.3 Heteroskedasticity tests

Heteroskedasticity is the condition of systematic variations in the residuals' spread or the model's error term. A model's dispersion is dependent on at least one independent variable if there is residual variance present in the model. As a result, there is a possibility that the model will differ from effective and real findings (Jain & Chetty, 2020).

The model's homoskedasticity is verified in this paper using a variety of tests. They are the Breusch-Pagan-Godfrey heteroskedasticity test, the Harvey test, and the Autoregressive Conditional Heteroskedasticity (ARCH) test.

The basic rule for the tests mentioned above is that if the test's F-statistic is greater than 0.05, the null hypothesis ($\sigma_1^2 = \sigma_2^2 = \sigma_3^2 = \dots = \sigma_n^2$) cannot be rejected. This implies that the series cannot be heteroskedastic. If the F- value is less than or equal to 0.05, the null hypothesis is refuted and the heteroskedasticity of the residual is proven.

3.2.7.4 Stability Test

The study employs the cumulative sum (CUSUM) of recursive residuals and cumulative sum of squares (CUSUMSQ) test to assess the stability of the model parameters. If the regression coefficients have changed consistently over time, it can be determined using the CUSUM test. The CUSUMSQ test, however, identifies sharp breaks in the stability of the regression coefficients (see; Ravinthirakumaran et al., 2015).

3.3 Conclusion

Since it describes the steps that were followed to approach the research issues methodically, this chapter is essential to the study. It covered the research design, which is the plan for the study that outlines how to develop the research questions and establish the research aim and objectives. Time series data from the World Bank were used in the study, which used an ex-post facto research approach and covered the years 1990 through 2020. Gross capital production (% of GDP), political stability (% of GDP), and foreign direct investments (% of GDP) were used in the study to explain GDP growth (annual; %) using the Solow neoclassical growth framework. In order to assess the data and ensure that the goals of the study were met, the pretest (descriptive

and correlation analysis), Unit-root test, and Johansen test were utilized. The results and their ramifications will be examined in the study's subsequent chapter.



CHAPTER FOUR: RESEARCH FINDINGS AND ANALYSIS

4.0 INTRODUCTION

This chapter summarizes the findings from the analytical methods applied to the study's data collection in order to achieve the predetermined aims. The previous chapter, "Research methodology," contains a detailed overview of the analytical techniques used. The Unit-root test was used to confirm the time series' stationarity.

The models' proper lag was chosen with the use of the Vector Autoregressive (VAR) lag length criteria, independent of serial correlation. The amount of cointegrating links that may be found in the models was also determined using the Johansen test, equations (i) and the Granger causality test, which focuses on the relationships between the variables in the model, equations (i).

4.1 ECONOMIC GROWTH MODEL RESULT AND ANALYSIS

4.1.1 Lag selection

Table 1.1 Lag selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1280.675	NA	7.02e+08	31.72038	31.83863	31.76782
1	-710.8866	1069.233	808.9224	18.04658	18.63780	18.28379
2	-609.3557	180.4994	98.18818	15.93471	16.99891*	16.36168
3	-603.8024	9.324122	128.0397	16.19265	17.72983	16.80939
4	-592.1918	18.34756	144.7270	16.30103	18.31119	17.10753
5	-550.3784	61.94582	78.30366	15.66366	18.14680	16.65993
6	-500.6934	68.70023*	35.29147*	14.83194*	17.78805	16.01797*
7	-497.2881	4.372220	50.61040	15.14292	18.57200	16.51871
8	-490.4454	8.109933	67.91407	15.36902	19.27109	16.93458

* Source: author's computations

Note: The decision is based on Akaike Information Criteria (AIC)

Table 1.1 is the outcomes of the vector autoregressive (VAR) optimal lag selection criteria. We discover that all of the criteria consistently choose 1 lag, hence the study uses this option.

4.1.2 Descriptive statistics

The output from the descriptive statistics showed the minimum and maximum values of the variables. The variable with minimum and maximum values are political instability and economic growth. The normality of the model is ascertained from the probability values of Jarque bera with most of the outputs show insignificant level.

Table 2. Descriptive Statistics

Variables	GDP	FDI	OIL_RENT	POL_INS
Mean	2240.583	0.044026	24.28851	7.321
Median	2348.484	-0.330496	29.51951	6.310
Maximum	2722.482	5.880659	42.29917	21.17
Minimum	1290.907	-4.025597	0.681566	0.000
Std. Dev.	416.3409	2.497873	13.75847	6.814
Skewness	-1.392666	0.968658	-0.461532	0.581
Kurtosis	3.641581	3.709389	1.921957	2.103
Jarque-Bera	7.829298	4.079073	1.930296	2.0661
Probability	0.019948	0.130089	0.380927	0.3559
Sum	51533.41	1.012606	558.6357	168.39
Sum Sq. Dev.	3813474.	137.2661	4164.500	1021.73
Observations	23	23	23	23

* Source: author's computations

4.1.3 Unit root Test

Stationarity test is estimated to ascertain the order of integration of the series and to know if there is unit root in the analysis. This study applied dickey fuller and Philipperon tests. The output shows that variables are stationary at first difference that is the order of integration is at I (1) for all the series. The output from the unit root test is displayed in the Table 3 below

Table 3.

		(PP)			
<u>At Level</u>					
		LNGDP	FDI	OIL_RENT	POL_INS
With Constant	t-Statistic	0.2860	-2.7086	-0.7572	-1.0624
	Prob.	0.9721	0.0878	0.8115	0.7124
		n0	*	n0	n0
With Constant & Trend	t-Statistic	-0.9062	-2.6113	-1.7125	-3.9248
	Prob.	0.9380	0.2789	0.7111	0.0275
		n0	n0	n0	**
Without Constant & Trend	t-Statistic	-0.9433	-2.7686	-1.4184	-1.1250
	Prob.	0.2978	0.0079	0.1412	0.2289
		n0	***	n0	n0
	<u>1st</u> <u>Difference</u>				
		d(LNGDP)	d(FDI)	d(OIL_RENT)	d(POL_INS)
With Constant	t-Statistic	-3.7651	-6.7384	-4.4191	-7.3715
	Prob.	0.0101	0.0000	0.0025	0.0000
		**	***	***	***
With Constant & Trend	t-Statistic	-4.4802	-6.6529	-5.1262	-7.1417
	Prob.	0.0092	0.0001	0.0026	0.0000
		***	***	***	***
Without Constant & Trend	t-Statistic	-3.6737	-6.9049	-4.3373	-7.1768

	Prob.	0.0008	0.0000	0.0002	0.0000
		***	***	***	***
			(ADF)		
	<u>At Level</u>				
		LNGDP	FDI	OIL_RENT	POL_INS
With Constant	t-Statistic	0.2860	-2.6412	-0.7817	-1.1691
	Prob.	0.9721	0.0996	0.8046	0.6695
		n0	*	n0	n0
With Constant & Trend	t-Statistic	-1.0313	-2.5515	-1.7834	-3.9061
	Prob.	0.9193	0.3031	0.6780	0.0286
		n0	n0	n0	**
Without Constant & Trend	t-Statistic	-0.9953	-2.7040	-1.3913	-2.4436
	Prob.	0.2771	0.0092	0.1480	0.0175
		n0	***	n0	**
	<u>1st</u> <u>Difference</u>				
		d(LNGDP)	d(FDI)	d(OIL_RENT)	d(POL_INS)
With Constant	t-Statistic	-3.7677	-6.7384	-4.3621	-4.9741
	Prob.	0.0100	0.0000	0.0029	0.0008
		**	***	***	***
With Constant & Trend	t-Statistic	-4.3939	-6.6986	-4.3717	-2.7080
	Prob.	0.0110	0.0001	0.0121	0.2442
		**	***	**	n0

Without Constant & Trend	t-Statistic	-3.6737	-6.9049	-4.3232	-7.1768
	Prob.	0.0008	0.0000	0.0002	0.0000
		***	***	***	***

* Source: author's computations

*Note: The *, **, *** denote significance levels at 10, 5 and 1 percent*

With this output from the unit root test which confirms order of integration of the series at I(1), we proceed to test if there is a long run relationship amongst the variables, that is if there is any cointegration among the variables. Following this output, we apply Johansen cointegration test to see if there is a long run cointegration among the variables. The output from the Johansen cointegration test showed that there is no cointegration among the variables. The output is shown in Table 4 below.

4.1.4 Johansen Cointegration

Table 4. Johansen Cointegration Result

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None	0.227736	39.73646	47.85613	0.2321
At most 1	0.126047	18.54533	29.79707	0.5260
At most 2	0.078355	7.497620	15.49471	0.5206
At most 3	0.009791	0.806842	3.841465	0.3691
Trace test indicates no cointegration at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**

None	0.227736	21.19112	27.58434	0.2648
At most 1	0.126047	11.04771	21.13162	0.6426
At most 2	0.078355	6.690777	14.26460	0.5263
At most 3	0.009791	0.806842	3.841465	0.3691

Max-eigenvalue test indicates no cointegration at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegrating Coefficients (normalized by b'*S11*b=I):

GDP	OIL_RENT	FDI	POL_INS
0.005495	-0.354186	1.099450	0.344959
0.002605	-0.030379	-0.569534	-0.221496
0.001038	-0.160307	-0.113160	0.209283
0.004828	-0.062761	-0.231240	0.113375

* Source: author's computations

Note: There is no cointegration.

From the above table, it shows that there is no cointegration among the variables which also shows that there is no long run relationship among the variables. For this, we select vector autoregressive (VAR) test which is the suitable method for this analysis. Hence,

4.1.5 VAR method

VAR MODEL Specifications for the selected variables

The VAR modelling of this study is as follows

$$GDP_t = \alpha + \sum_{i=1}^k \beta_i GDP_{t-1} + \sum_{j=1}^k \gamma_j polins_{t-i} + \sum_{j=1}^k \theta_n oilrent_{t-n} + \sum_{j=1}^k \varphi_m FDI_{t-m} + U_{1t} \quad (1)$$

$$Oilrent_t = \alpha + \sum_{i=1}^k \beta_i GDP_{t-1} + \sum_{j=1}^k \gamma_j polins_{t-i} + \sum_{j=1}^k \theta_n oilrent_{t-n} + \sum_{j=1}^k \varphi_m FDI_{t-m} + U_{1t} \quad (2)$$

$$FDI_t = \alpha + \sum_{i=1}^k \beta_i GDP_{t-1} + \sum_{j=1}^k \gamma_j polins_{t-i} + \sum_{j=1}^k \theta_n oilrent_{t-n} + \sum_{j=1}^k \varphi_m FDI_{t-m} + U_{1t} \quad (3)$$

$$Polins_t = \alpha + \sum_{i=1}^k \beta_i GDP_{t-1} + \sum_{j=1}^k \gamma_j polins_{t-i} + \sum_{j=1}^k \theta_n oilrent_{t-n} + \sum_{j=1}^k \varphi_m FDI_{t-m} + U_{1t} \quad (4)$$

The above models denotes that each of the dependent variables is a function of its lagged values and the lagged values of other variables in each model. Note that, the VAR model is specified in levels and not in differenced form.

From the above Equations 1 to 4, GDP, Pol-ins, Oil rent and FDI represent economic growth, political instability, oil rent and FDI, while K, t, α , β , γ , θ and φ represent lag, time, and the parameters of the variables. Also, U_{1t} denotes stochastic error term which is referred to as innovation

4.1.6 VAR RESULT

Table 5: VAR Result

	GDP	OIL_RENT	FDI	POL_INS
GDP(-1)	1.694061 (0.12544) [13.5053]	0.000591 (0.00465) [0.12714]	-0.000514 (0.00138) [-0.37277]	-0.001000 (0.00233) [-0.42935]
GDP(-2)	-0.719436 (0.23495) [-3.06203]	-0.000684 (0.00871) [-0.07847]	0.000459 (0.00258) [0.17783]	0.000783 (0.00436) [0.17952]

GDP(-3)	1.39E-15 (0.24546) [5.7e-15]	4.47E-16 (0.00910) [4.9e-14]	2.49E-17 (0.00270) [9.2e-15]	-4.62E-17 (0.00456) [-1.0e-14]
GDP(-4)	-0.354733 (0.24560) [-1.44437]	0.003643 (0.00911) [0.40013]	0.000462 (0.00270) [0.17113]	0.001025 (0.00456) [0.22464]
GDP(-5)	0.545244 (0.23259) [2.34418]	-0.005324 (0.00862) [-0.61734]	-0.001298 (0.00256) [-0.50757]	-0.001528 (0.00432) [-0.35362]
GDP(-6)	-0.221173 (0.11922) [-1.85517]	0.001599 (0.00442) [0.36166]	0.000743 (0.00131) [0.56689]	0.000181 (0.00221) [0.08196]
OIL_RENT (-1)	1.724183 (3.32393) [0.51872]	1.753413 (0.12323) [14.2283]	0.018863 (0.03655) [0.51606]	0.004339 (0.06174) [0.07029]
OIL_RENT(-2)	-0.540484 (6.50914) [-0.08303]	-0.765588 (0.24132) [-3.17244]	-0.016101 (0.07158) [-0.22495]	0.001506 (0.12090) [0.01246]
OIL_RENT(-3)	-1.54E-13 (6.86585) [-2.2e-14]	-7.09E-15 (0.25455) [-2.8e-14]	-8.14E-16 (0.07550) [-1.1e-14]	2.87E-15 (0.12752) [2.2e-14]
OIL_RENT(-4)	-7.228058 (6.86763) [-1.05248]	-0.258822 (0.25462) [-1.01652]	0.182888 (0.07552) [2.42174]	0.047847 (0.12756) [0.37510]
OIL_RENT(-5)	13.32883	0.404360	-0.304601	-0.048108

	(6.72715)	(0.24941)	(0.07397)	(0.12495)
	[1.98135]	[1.62128]	[-4.11763]	[-0.38502]
OIL_RENT(-6)	-4.513683	-0.144179	0.136386	0.043697
	(3.97082)	(0.14722)	(0.04366)	(0.07375)
	[-1.13671]	[-0.97936]	[3.12347]	[0.59248]
FDI(-1)	-3.907964	-0.041798	1.792564	-0.133203
	(8.52450)	(0.31604)	(0.09374)	(0.15833)
	[-0.45844]	[-0.13226]	[19.1229]	[-0.84129]
FDI(-2)	1.555924	0.005540	-0.827253	0.029341
	(14.2357)	(0.52779)	(0.15654)	(0.26441)
	[0.10930]	[0.01050]	[-5.28453]	[0.11097]
FDI(-3)	-2.80E-13	2.97E-15	-1.98E-16	3.43E-16
	(13.5390)	(0.50195)	(0.14888)	(0.25147)
	[-2.1e-14]	[5.9e-15]	[-1.3e-15]	[1.4e-15]
FDI(-4)	-4.173842	-0.785673	-0.830303	0.035319
	(13.5453)	(0.50219)	(0.14895)	(0.25159)
	[-0.30814]	[-1.56450]	[-5.57438]	[0.14038]
FDI(-5)	4.797934	1.288559	1.530646	-0.169343
	(13.9575)	(0.51747)	(0.15348)	(0.25924)
	[0.34375]	[2.49011]	[9.97275]	[-0.65322]
FDI(-6)	-1.703953	-0.546094	-0.732402	0.032491
	(9.08083)	(0.33667)	(0.09986)	(0.16867)
	[-0.18764]	[-1.62205]	[-7.33452]	[0.19263]
POL_INS(-1)	-2.823062	0.013175	-0.010270	1.655141
	(5.70155)	(0.21138)	(0.06270)	(0.10590)

		[-0.49514]	[0.06233]	[-0.16380]	[15.6294]
POL_INS(-2)	1.623095 (9.08494) [0.17866]	0.000761 (0.33682) [0.00226]	-0.005614 (0.09990) [-0.05620]	-0.710511 (0.16874) [-4.21064]	
POL_INS(-3)	-1.10E-13 (8.94592) [-1.2e-14]	6.90E-16 (0.33167) [2.1e-15]	-3.28E-16 (0.09837) [-3.3e-15]	6.98E-16 (0.16616) [4.2e-15]	
POL_INS(-4)	-0.388025 (8.94639) [-0.04337]	0.148861 (0.33169) [0.44880]	0.171841 (0.09838) [1.74674]	-0.698856 (0.16617) [-4.20571]	
POL_INS(-5)	-1.786064 (9.12861) [-0.19566]	-0.321622 (0.33844) [-0.95031]	-0.295079 (0.10038) [-2.93955]	1.178755 (0.16955) [6.95213]	
POL_INS(-6)	1.912199 (5.42559) [0.35244]	0.191967 (0.20115) [0.95434]	0.118913 (0.05966) [1.99311]	-0.499810 (0.10077) [-4.95972]	
C	64.73909 (33.1484) [1.95301]	0.367556 (1.22897) [0.29908]	0.092292 (0.36451) [0.25319]	0.494845 (0.61569) [0.80372]	
R-squared	0.997021	0.996261	0.988913	0.9960	
Adj. R-squared	0.995788	0.994713	0.984326	0.9944	
Sum sq. resids	39931.36	54.88706	4.828566	13.7757	
S.E. equation	26.23874	0.972794	0.288533	0.4873	
F-statistic	808.7640	643.8806	215.5632	616.6501	
Log likelihood	-374.0791	-100.6090	0.266179	-43.24080	
Akaike AIC	9.616363	3.026724	0.595996	1.6443	
Schwarz SC	10.34493	3.755290	1.324562	2.3729	

Mean dependent	2261.061	23.74672	0.212208	6.9789
S.D. dependent	404.2970	13.37938	2.304634	6.5601
Determinant resid covariance (dof adj.)		12.2234		
Determinant resid covariance		2.9146		
Log likelihood		-515.4828		
Akaike information criterion		14.8309		
Schwarz criterion		17.7451		
Number of coefficients		100		

* Source: author's computations

From the above VAR output, we convert to ordinary least square test for the inclusion of probability value so as to identify the outputs that are significant for our analysis

We obtain the equation for each of the variables as they appeared in our model above. We did this so as to enable us run OLS test. Hence:

First, we run the ordinary least square test as a group to obtain the following outputs as they appeared in the Table 6. Refer to the Appendix.

From the table 6, we observe there are many insignificant results, therefore, we decide to run a redundant test to separate and remove the insignificant outputs which we called redundant outputs. To this, we remove the redundant outputs from the above equations to have the following new equations, hence,

From the above reduced equations, we perform another combine OLS test for the all the models which gives us the following output with greater significant output and this is considered the better result which we base our interpretation and discussion on. Thus,

Table 7. Resulty from Ordinary least square

	Coefficient	Std. Error	t-Statistic	Prob.
GDP model				
C(1) (GDP)	1.814974	0.097227	18.66740	0.0000***
C(2) (GDP)	-0.948826	0.127078	-7.466474	0.0000***
C(5) (GDP)	0.215028	0.125680	1.710910	0.0881*
C(6) (GDP)	-0.122512	0.093848	-1.305427	0.1927
C(11) (GDP)	1.604739	0.433902	3.698389	0.0003***
C(25)(GDP)	49.35349	21.29902	2.317172	0.0211**
Oil rent model				
C(32) (FDI)	1.744877	0.077886	22.40294	0.0000***
C(33)(FDI)	-0.748886	0.077466	-9.667340	0.0000***
C(42)(FDI)	0.002091	0.052636	0.039716	0.9683
FDI model				
C(60) (Oil rent)	0.167521	0.033008	5.075100	0.0000***
C(61) (Oil rent)	-0.270361	0.063442	-4.261510	0.0000***
C(62) (Oil rent)	0.109548	0.036976	2.962680	0.0033***
C(63) (FDI)	1.817158	0.084875	21.40980	0.0000***
C(64) (FDI)	-0.842806	0.111143	-7.583050	0.0000***
C(66) (FDI)	-0.846039	0.106630	-7.934374	0.0000***
C(67) (FDI)	1.554302	0.145431	10.68758	0.0000***
C(68)(FDI)	-0.738511	0.088941	-8.303390	0.0000***
C(73)(Poll inst)	-0.023210	0.038250	-0.606788	0.5444
C(74)(Poli inst)	0.008252	0.037464	0.220266	0.8258
Pol Inst model				
C(94) (Pol inst)	1.843996	0.079275	23.26090	0.0000***
C(95)(pol inst)	-0.848549	0.111580	-7.604867	0.0000***
C(97) (pol inst)	-0.717244	0.117844	-6.086383	0.0000***
C(98)(pol inst)	1.307646	0.149171	8.766075	0.0000***
C(99)(pol inst)	-0.594513	0.079114	-7.514648	0.0000***
Determinant residual covariance		8.185817		
Equation: $GDP = C(1)*GDP(-1) + C(2)*GDP(-2) + C(5)*GDP(-5) + C(6)$				

$*GDP(-6) + C(11)*OIL_RENT(-5) + C(25)$			
Observations: 87			
R-squared	0.997110	Mean dependent var	2216.120
Adjusted R-squared	0.996932	S.D. dependent var	445.2525
S.E. of regression	24.66423	Sum squared resid	49274.27
Durbin-Watson stat	2.173908		
Equation: $OIL_RENT = C(32)*OIL_RENT(-1) + C(33)*OIL_RENT(-2) + C(42)$			
$*FDI(-5)$			
Observations: 84			
R-squared	0.994187	Mean dependent var	23.80448
Adjusted R-squared	0.994044	S.D. dependent var	13.30906
S.E. of regression	1.027152	Sum squared resid	85.45827
Durbin-Watson stat	1.795024		
Equation: $FDI = C(60)*OIL_RENT(-4) + C(61)*OIL_RENT(-5) + C(62)$			
$*OIL_RENT(-6) + C(63)*FDI(-1) + C(64)*FDI(-2) + C(66)*FDI(-4) + C(67)$			
$*FDI(-5) + C(68)*FDI(-6) + C(73)*POL_INS(-5) + C(74)*POL_INS(-6)$			
Observations: 87			
R-squared	0.986128	Mean dependent var	0.131235
Adjusted R-squared	0.984506	S.D. dependent var	2.2808
S.E. of regression	0.283914	Sum squared resid	6.2067
Durbin-Watson stat	2.112705		
Equation: $POL_INS = C(94)*POL_INS(-1) + C(95)*POL_INS(-2) + C(97)$			
$*POL_INS(-4) + C(98)*POL_INS(-5) + C(99)*POL_INS(-6)$			
Observations: 87			
R-squared	0.995019	Mean dependent var	6.6581
Adjusted R-squared	0.994776	S.D. dependent var	6.5722

S.E. of regression	0.475035	Sum squared resid	18.5039
Durbin-Watson stat	1.904209		

* Source: author's computations

*Note: The *, **, *** denote significance levels at 10, 5 and 1 percent*

Having gotten the group or combine OLS result, we decide to run the OLS test on individual basis, and the output from the individual estimations are as follows;

From GDP model in table 7, it shows that the increase in oil rent of Yemen will increase the economic growth of Yemen by 1.6 percent ceteris paribus. Also, the output in Lag 25 confirms the same output for the oil and GDP.

From Oil rent model in table 7, it shows that there is a positive relationship between FDI and oil rent. It means that the oil rent in Yemen is capable of attracting foreign investors into the country. However, the output is not significant, yet this is true for Yemen because the foreign investors are afraid of coming to the country to invest.

From FDI model in table 7, it shows the outputs that oil rent and FDI have positive relationship for the case of Yemen confirming the outputs we got from oil rent model except for lag 61 which shows negative result. The outputs are all significant at 1 percent.

Summarily, the findings from our estimations show that the selected indicators (*Political instability, Oil rent and FDI*) have impact on the economic development of Yemen and policy direction should be based on the indicators. The Durbin Watson outputs from the individual models show that the models are from serial correlation. The results from each model are shown at the appendix section.

4.1.7 Autocorrelation Test

Table 9. VAR Residual Serial Correlation LM Tests

Lag	LRE* stat	df	Prob.	Rao F-stat	Df	Prob.
1	4.328072	16	0.9982	0.262378	(16, 156.4)	0.9982
2	3.171071	16	0.9998	0.191556	(16, 156.4)	0.9998
3	5.053645	16	0.9955	0.307048	(16, 156.4)	0.9955
4	78.02320	16	0.0000	5.982302	(16, 156.4)	0.0000
5	4.975749	16	0.9959	0.302243	(16, 156.4)	0.9959
6	5.281490	16	0.9942	0.321116	(16, 156.4)	0.9942

Lag	LRE* stat	df	Prob.	Rao F-stat	Df	Prob.
1	4.328072	16	0.9982	0.262378	(16, 156.4)	0.9982
2	12.54326	32	0.9992	0.373207	(32, 174.9)	0.9992
3	30.14603	48	0.9795	0.598339	(48, 167.7)	0.9804
4	85.79706	64	0.0359	1.419464	(64, 155.0)	0.0419
5	92.65162	80	0.1577	1.186504	(80, 140.5)	0.1879
6	104.1686	96	0.2672	1.083952	(96, 125.3)	0.3341

*Edgeworth expansion corrected likelihood ratio statistic.

* Source: author's computations

Note: The autocorrelation result shows that there is no correlation problem with this model.

4.18 Granger Causality

Table 10 Pairwise Granger Causality Tests

Null Hypothesis:	Obs	F-Statistic	Prob.
OIL_RENT does not Granger Cause GDP	88	21.6385	1.E-05***
GDP does not Granger Cause OIL_RENT		1.86708	0.1754
FDI does not Granger Cause GDP	92	0.06384	0.8011
GDP does not Granger Cause FDI		0.88112	0.3504
POL_INS does not Granger Cause GDP	92	12.6500	0.0006***
GDP does not Granger Cause POL_INS		0.77238	0.3818
FDI does not Granger Cause OIL_RENT	88	17.1245	8.E-05***
OIL_RENT does not Granger Cause FDI		5.71564	0.0190***
POL_INS does not Granger Cause OIL_RENT	88	4.33980	0.0402***
OIL_RENT does not Granger Cause POL_INS		0.04519	0.8322
POL_INS does not Granger Cause FDI	92	4.07296	0.0466**
FDI does not Granger Cause POL_INS		10.9910	0.0013***

* Source: author's computations

*Note: The *, **, *** denote significance levels at 10, 5 and 1 percent*

We may therefore detect a causal unidirectional relationship from oil rent to economic growth from the statistics provided in Table 10.1. This shows that oil rent is granger causing economic growth. Similarly, there is a causal unidirectional relationship from pol-insta to economic growth. This shows that poli inst is granger causing economic growth. However, We find Bi-directional transmission between oil rent and FDI. This shows that both oil rent and FDI are granger causing each other. This supports our findings from the VAR converted to OLS output. It means that these two variables are very sensitive to the improvement of Yemen's economy.

In addition, We find uni-directional transmission from pol-insta to oil rent. This shows that political instability is granger causing to oil rent which means a great impact of

political instability on the economy of Yemen through distorting the gains from oil rent. Finally, We find Bi-directional transmission between pol-insta and FDI. This shows that both political instability and FDI are granger causing each other. This supports our findings from the VAR converted to OLS output. It means that these two variables are very equally sensitive to the performance of Yemen's economy.



CHAPTER FIVE

STUDY SUMMARY,

THE CONCLUSION AND THE FINAL RECOMMENDATIONS

5.1 RESEARCH SUMMARY

The study looked at theoretical and empirical justifications for the relationship between Yemen's post-war reconstruction and specific economic growth parameters. The main concepts of economic growth as well as the empirically demonstrated links between its main components, such as political stability, Foreign Direct Investment, and Oil Rent, were revealed by reviewing both the theoretical and empirical literatures.

To achieve the project objectives, the study begun with definitions of the main courses that are related to the topic, such as conflict, state institutions building, reconstruction concepts, economic principles, and economic growth functions. The study takes an overview of Yemen historical and present background, as a foundation to visualizing the current ongoing situation from political and economic perspective.

Going deeper with the understanding of the Yemeni case, the research studied the cycle of conflict that has been occurred in the nation during the past three decades as roots of the present war. Although, most of these conflicts were ended by political settlements, the economy side was almost avoided in these settlements which seen as a reason of the violence reoccurrence. Reviewing the previous studies of some similar cases, and which factors contribute to hinder any state rebuilding project, such as the war economy and war lords, was also studied in this research.

Prior to the methodology chapter, in this study, we measured the country's economic performance using the economic growth certain indicators, and then we projected the results using appropriate mixed models. The study investigated the functioning of the Yemeni economic growth main factors like the energy sector (oil rent), political instability, foreign direct investment, as well as the GDP annual reports.

The study used mixed models along with the Solow-Swan neoclassical growth framework, which includes FDI, political instability, and oil rent as additional variables to the GDP that drives the model's explanation of economic growth. The investigation covered a thirty-year period (1991-2021).

The summary statistics showed the descriptive properties of the timeseries. Our new findings numerically show that the increase in oil rent of Yemen will increase the economic growth of Yemen by 1.6 percent *ceteris paribus*. Also, the output in Lag 25 confirms the same output for the oil and GDP. Moreover, The output of the Durbin Watson at 2.17 shows that the GDP model is free from serial correlation problem.

Thus, we decided to run the OLS test on individual basis and the results show that there is a positive relationship between FDI and oil rent. It means that the oil rent in Yemen is capable of attracting foreign investors into the country. However, the output is not significant, this is true for Yemen because the foreign investors are afraid of coming to the country to invest because of the political unrests. Moreover, the output of the Durbin Watson at 1.7 shows that the oil rent model is free from serial correlation problem.

Running the OLS test also shows the outputs that oil rent and FDI have positive relationship for the case of Yemen confirming the outputs we got from oil rent model except for lag 61 which shows negative result. The outputs are all significant at 1 percent. And the output of the Durbin Watson at 2.11 shows that the GDP model is free from serial correlation problem, and the results show the output of the Durbin Watson at 1.9 that the GDP model is free from serial correlation problem.

However, we find uni-directional transmission from oil rent to economic growth. This shows that oil rent is granger causing economic growth. Similarly, we find uni-directional transmission from pol insta to economic growth. This shows that poli inst is granger causing economic growth. Also we find uni-directional transmission from pol insta to oil rent. This shows that pol instability is granger causing oil rent which means a great impact of political instability on the economy of Yemen through distorting the gains from oil rent.

Nevertheless, we find Bi-directional transmission between oil rent and FDI. This shows that both oil rent and FDI are granger causing each other. This supports our findings from the VAR converted to OLS output. It means that these two variables are very sensitive to the improvement of Yemen's economy. And finally, we find Bi-directional transmission between pol insta and FDI. This shows that both pol inst and FDI are granger causing each other. This supports our findings from the VAR converted to OLS output. It means that these two variables are very equally sensitive to the performance of Yemen's economy.

5.2 Conclusion

Yemen has suffered historically from a lot of political instability. Even before the current war, the country was ruled for more than three decades by Ali Abdullah Saleh, who took control of North Yemen in 1978 and has been in charge since it was united in 1990 to 2012. Saleh was not committed to any ideology beyond a near-term concern on regime survival. Instead, he has painstakingly created an "administrative feudal system"(Dresch, 2000), that has mixed "kleptocracy with plutocracy" (Robert D, Catherine, 2007). However, it is a matter of fact that eventually the conflict in Yemen, as in any cases, will come to an end. A former minister said to Financial Times magazine once:

"I think the warring factions in Yemen will eventually reach a power-sharing agreement, but then there is the enormous burden of rebuilding a destroyed society. "Can you fix it? We must hold fast to that optimism."

In addition, any efforts to put end of the Yemeni agony should be aware of the nature of the roots and the causes of this proxy war. While we studied the political instability of Yemen as an essential factor of the economic growth, we should emphasize that the proxy war in the country must be ended internally and regionally. The Iranian administration is employing the Hezbollah terrorist organization, which has bases in Lebanon, to arm and train the Houthi rebels in Yemen as part of Iran's effort to strengthen its influence in the area. Iran views the Houthis as a low-cost tool that can be used to counter Saudi Arabia's influence (Obinna U. M, Obasuyi, 2020). If humanitarian aid or remittances from the diaspora are diverted or conflict commodities are traded, then stopping these resource flows may help shift the incentives of combatants away from war and toward peace. Peace will be achieved through technical, reasonably priced steps that make it harder for belligerent parties to acquire and profit from economic resources, as opposed to through tedious political compromise negotiations or even outright military intervention in the form of peacekeeping operations (Lunde 2002; Hubert 2000).

It may be challenging to bring the conflict to a finale, and that will just be the start of what seems to be an extraordinarily challenging reconstruction "Politics, Governance, and Reconstruction in Yemen". Simply putting a halt to the fighting would lessen its

degree of agony in the immediate term but doing so will undoubtedly make it last longer and could even be the start of new levels of war (H. Cordesman, 2017). The question of what steps should be taken to gain attention and how much of an impact they would have on the host country's economy is driven by the awareness that economic growth components are a factor in reconstruction in the host country.

Many similar experiences have shown that a strong macroeconomic foundation and an emphasis on the political economy of the reviving phase are key factors in the success of reconstruction. The efforts made toward any serious state-rebuilding initiative, however, are jeopardized by instability and corruption. Due to the fact that Yemen is one of the nations with the worst economic growth, it is projected that the country would face economic difficulties. As a result, the study offers such information in this context.

The nature of the relationship between economic growth and the post-war reconstruction of host nations was described in existing literature in terms of both theoretical and empirical bases. The bulk of the studies showed that economic growth had a favorable impact on the reconstruction efforts of the host nations, including Yemen, even if there was no clarity among the empirical studies' conclusions. Positive impact of the economic growth on the reconstruction after war may also extend to cover other aspects. The civilian employment required to reintegrate demobilized soldiers can be created by policies that promote an early restart of economic growth (Addison, 2003).

The study examined the theoretical and empirical explanation of economic growth's relationship with the country's economy recovering from conflict using the ex-post facto research design and the Solow-Swan neoclassical growth framework. The defined growth model was used to explain fluctuations in economic growth using independent factors such as political stability, oil rent, and foreign direct investment.

Regarding the nature and characteristics of the data set, the study used a mix of empirical methodologies. These techniques included correlation analysis, which established a connection between the model's variables, and descriptive statistics for the dataset's descriptive qualities. The series was non-stationary at the initial difference, as shown by the Johansen cointegration test, the Phillips-Perron unit-root test, and the VAR lag selection criteria, which uniformly chose 6 lags as the best lag for the study. Diagnostic tests validated the model as being consistent with the

normality, no serial correlation, and homoskedasticity assumptions of regression estimation while CUSUM and CUSUMSQ proved the model's stability.

The study concludes that Yemen's post-conflict reconstruction is influenced by political instability, pre-war circumstances, and foreign direct investments. In terms of GDP, oil exports are crucial to ensuring that Yemen sees both short-term and long-term economic growth. While security and political stability are determined to be useful tools for enhancing economic growth in the short term and vice versa the absence of them is a hinder factor, foreign direct investments are found to be positive and influential towards economic growth over the long term.

Yemen's GDP is mostly based on its oil exports, thus foreign direct investments and international aid help the economy of the nation expand. The implications include an improvement in the GDP per capita of Yemen's citizens as well as an increase in the amount of money available to businesses, which helps them expand and create jobs that lower unemployment rates and boost productivity.

5.3.1 Policy Recommendations

The immediate post-war period in countries that have recently experienced conflict determines the tone for the future course of the nation. This period, described as an "open moment" by the previous president of Afghanistan, Ashraf Ghani, rarely meets the hopes and expectations of the national population or the international community (Galtung and Tisné, 2009). Moreover, political solutions to the conflict will only become more difficult, putting the prospect of peace for the region even further away, until the macroeconomic situation is substantially addressed.

It would be useful for policy makers if we could forecast the trends of economic development under different reconstruction policies and model the economic costs of recovery. Hence, that could assess the effects of disasters on economic indicators quickly after a tragedy, governments would have a solid theoretical framework for developing restoration and recovery measures (Breisinger, et al, 2020). In order to be considered effective, every aspect of post-war revitalization should be viewed as a form of social work that addresses problems in terms of relationships, meanings, and lifestyles. Those working in post-war reconstruction, such as architects, economists, engineers, and conservators, will be directly impacted by this and will need to merge the ethical and practical sides of the issues they tackle (Calame, 2005).

Given the research study's findings, it is highly suggested that local and international actors, including the government and economic team, who are responsible for any reconstruction plan in Yemen after war, work diligently to implement effective macroeconomic policies that would smoothly push the country's economic growth forward in post-conflict Yemen, as expanding bilateral agreements with countries at the regional and international levels, putting them into practice, and so forth.

Political stability, private sector, energy sector and international financial inflows are among the things that insecurity hinders since nobody wants to invest in an area that is filled with conflict and insecurity of any kind, which are referred to as high risk regions. In light of the foregoing, it is recommended that the government, in coordination with security organizations, seek to implement efficient security measures to combat all forms of insecurity in the nation and prepare Yemen for the reconstruction phase and to become an investment-friendly country.

The private sector and the government should put a lot of effort into developing programs that educate the public about entrepreneurship and support the development of social skills. Productivity would rise as a result of this having a favorable impact on the nation's human capital. Additionally, it is advised that the government implement financial regulations that support small and medium-sized businesses (SMEs). This will increase employment, lower unemployment, and therefore, boost national productivity. It is advised that the government invest more in R&B (Research and innovation) because inventions and innovations are indicators of technical development and increase a country's economic growth factors. For Yemen, the Ministry of Planning & International Cooperation in June 2019 stated that damage evaluation, needs determination, and World Bank assessments would be all included in the assessment of recovery needs.

According to the study's findings, it is evident that any plan for rebuilding Yemen is extremely problematic, particularly the country's economic situation, which is predicted to deteriorate in the years after the conflict if current trends continue. Calculating the economic effects of catastrophic occurrences usually uses indicators like value added, gross output, or employment status (ECLAC, 2003). While more research is required on these topics, a variety of policy reforms can increase the likelihood that peacemaking and peacebuilding will be effective when used in a

forceful and well-coordinated effort. (Nitzschke,2003). The continuity of economic governance patterns from prewar to postwar conditions also emphasizes how strongly the Middle East's civil war has linked sovereignty and governance, lowering the likelihood of political agreements that call for a separation of the two” Risse, Governance without a State”. So, it might be possible to stop future acts of violence by addressing the causes of conflict early on. Finally, The IMF provides a quite favorable assessment of Yemen's economic problems in its study *The Economics of Post-Conflict Reconstruction in MENA*, but it also presents a serious warning about the forces that separated and damaged Yemen before the civil war. Therefore, we can summarize the main points as following:

- Although there is still debate on the synchronization of political and economic reforms, the two issues are interrelated and should be easily distinguished. Alongside with the political and economy reforms, the country will be in crucial need of transforming justice programs. On the other hand, it has been demonstrated empirically that the amount of economic growth in a nation outweighs the degree of democracy as a predictor of the start of conflict (Fearon and Laitin 2003; Fearon 2007). These findings imply that the extent to which a society has developed democratic institutions may be less significant than the degree to which private property rights are protected (see also Basuchoudhary and Shughart, 2010, in the context of transnational terrorism).
- Yemen urgently requires greater development aid. A significant effort in the area of institution-building should be made, particularly with the creation of a more capable and professional bureaucracy. In order to try to strengthen the legitimacy of the central government, Yemen would need assistance from donors on both a financial and technical level to do this.
- IFIs should support peace processes once agreements are reached by implementing targeted "peace conditionality," in which loans are subject to conditions such as the redress of horizontal inequalities, transparent and accountable resource management, and the restoration of legal property rights (Boyce 2003).
- It is certainly necessary to strengthen state legitimacy and empower central governments with the proper tools to expand its sovereignty over the entire national territory.

- Undoubtedly, the international actors' opinions would be driven by what they think about the conflict definition in Yemen, and that would absolutely affect the policy makers and therefore their foreign policy and the volume of aid they will provide to the country.
- Cut off from the pre-war circumstances, which were a major factor in the war's extension and may have impacted the spoils and state-rebuilding project. By raising the country's revenue, pro-growth policies can lessen the economic resentments that corrupt political personalities may exploit (Addison, 2003).
- Considering the lessons learned from the NDC (National Dialogue Conference) and other local political settlement efforts in the past and building up on those lessons.
- The political settlement can be strengthened by well-planned economic change, whereas one that is unwell designed can make it weaker. Political agreements reached after a war must be supported by sound economic principles (Addison, 2003). Therefore, give any upcoming settlement its due consideration in terms of the economy is compulsory.
- In any future plan, the welfare of the people, including public services, health, and other aspects, must be given top importance.
- Restructuring government spending is a mandatory of starting any economic recovery process. A more equitable distribution of public spending (and taxation) across regions and combating groups can start to address the severe social inequalities that frequently characterize the pre-war pattern of public infrastructure and services—inequalities that may have fostered complaints and conflict itself—inequalities that can be addressed.
- Involving most of the community classes, and specially underprivileged, in the growth process must be carefully considered by policymakers. They must achieve this by multiple reforms such as defending their property rights.
- Policy makers are recommended to pay close attention to the regional growth pattern and building up their human capital in order to have access to the jobs and revenue streams that growth generates (Addison, 2003).
- Given the situation Yemen has found itself in, it is clear that the country desperately needs institutional reforms. Institutions are important for maintaining peace after conflicts in addition to politics (Fearon, 2011).
- Intensive efforts should be directed toward human developments, especially the education and the labor qualification. Broad-based investments in education and

infrastructure build basic capabilities that make possible future economic growth (Feldman and Storper, 2018).

- Using the geopolitics advantages of the country effectively is urgently required. Yemen has one of the best natural harbors in the world with a unique strategic geographical location linking the East and the West (Burrowes, 2010). The Red Sea location of Yemen, its history of maritime trade, and its established strong links to the Arabian Peninsula and East Africa have all contributed to its population's independence of thought, inventiveness, and openness to contacts with the rest of the world. This is reflected in an open economy and a favorable environment for both domestic and foreign investment (Elmallakh, 1986).
- Oil dependence and corruption are likely to continue to be significant problems in Iraq, regardless of the outcome of a prolonged and violent transition process (Billon, 2008). Similarly, post-war Yemen should establish strict control and accountability mechanism.
- Reorganizing the right procedures for handling remittances from the diaspora and encourage the millions of immigrants from Yemen to contribute to the nation's economic revival.
- Supporting the private sector and encourage them to be part of the reconstruction process and doing their social responsibility towards people of Yemen. The business community should be involved in the customs reform process, and recommendations include supporting commercial law reform, pushing for judicial reform programs that focus on business law. This would give the private sector a very favorable message, namely, “Yemen Corruption Assessment”
- It is highly recommended to diversify the economy and reduce dependence on oil exports. Prior to the 1985 oil discovery, the country's top two economic sectors were manufacturing and agriculture, which accounted for respectively 24 and 14 percent of the GDP (World Bank, 1989).
- The negative international actions that fuel the fire in Yemen, especially the parties directly associated with the violence in the country, must be curtailed in order to mobilize the financial flows and assistance for Yemen after the conflict. The crisis in the region is reportedly escalating due to disagreements between Iran, Saudi Arabia, and the United Arab Emirates, according to observers. Ending the Houthis' access to

military equipment is something the Iranians should do right away. (Hillerman and Alley, 2016)

- One of the prior actions to start and protect the reconstruction operation in Yemen is to aid in ending the conflict permanently and guaranteeing the prevention of a recurrence is to halt the largest warring groups, such as Houthis, financial resources. And make the peace more fruitful than continuing in war. The majority of international policy initiatives have usually concentrated on limiting resource flows to combatants in order to address the economic components of intra-state conflict. through international control systems (Sherman, 2002; Le Billon, et al). However, the creator of effective legal systems that handle the global flow of resources that allows for military warfare is a long-range goal. Despite being crucial for structural, this strategy offers comparably effective conflict prevention. a few useful tips for dealing with the immediate problems of rebuilding war-torn nations, in especially in areas where protracted war has distorted favorable political and economic relations those who profit from violence (Nitzschke, 2003).
- Evidence suggests that one factor encouraging insurgency is the credibility of policymakers (see Keefer 2008). Ineffective peace talks, and hence the reconstruction project, and the resurgence of conflict have both been linked to the lack of credible commitment (Bremer, S.A.1992). Yet this might further limit the capacity of political players to credibly commit to peace negotiations (Fearon 1995).

The UN and the World Bank must make disarmament and reintegration simultaneous and complementary procedures rather than sequential ones in these circumstances (Nitzschke, 2003). DDR initiatives are crucial components of national post-conflict development and reconstruction plans.

5.3.1 Recommendations for Future Research

Not all wars have massive economic implications. Those which do, however, present unique and occasionally more difficult management conflicts. In order to inform and enhance policy action, more study on the political economics of peacemaking and peacebuilding is required. Nevertheless, research to date points to a number of policy mechanisms and strategies that governments, aid organizations, regional organizations, international financial organizations (IFIs), and the UN system may

implement to deal with the economic lasting effects of war more effectively and improve the chances for successful peacemaking and peacebuilding (Nitzschke, 2003). No single study provides policymakers in Yemen with a clear way forward. But further comprehensive studies together might be useful to apply the depth of understanding Yemen's controversial case. This could assist to drive policies that support a peaceful end to this terrible war and an inclusive and long-lasting process of reconstruction.

The sectorial structure of the difficulties in Yemen's post-war rebuilding was not comprehensively covered in the study, which would have provided more information about how the sectoral use of economic growth factors affects the country's economy. Additionally, the lack of data for the time period under consideration was the reason why human capital was not included in the growth model (Mankiw, 1992). Future research should take this into account.

Appendixes

Table 6. Result from Ordinary least square (OLS)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	1.694155	0.124378	13.62098	0.0000
C(2)	-0.719780	0.232954	-3.089790	0.0022
C(3)	6.05E-15	0.243394	2.49E-14	1.0000
C(4)	-0.353861	0.243394	-1.453860	0.1473
C(5)	0.544884	0.230613	2.362764	0.0190
C(6)	-0.221943	0.117996	-1.880933	0.0612
C(7)	1.732625	3.295016	0.525832	0.5995
C(8)	-0.544540	6.454251	-0.084369	0.9328
C(9)	-2.67E-14	6.808075	-3.93E-15	1.0000
C(10)	-7.211503	6.808075	-1.059257	0.2906
C(11)	13.30677	6.667352	1.995810	0.0471
C(12)	-4.504865	3.936545	-1.144370	0.2536
C(13)	-3.910141	8.452739	-0.462589	0.6441
C(14)	1.558094	14.11593	0.110378	0.9122
C(15)	7.13E-13	13.42505	5.31E-14	1.0000
C(16)	-4.217576	13.42505	-0.314157	0.7537
C(17)	4.891961	13.81208	0.354180	0.7235
C(18)	-1.752304	8.993050	-0.194851	0.8457
C(19)	-2.837878	5.651877	-0.502113	0.6161
C(20)	1.630113	9.008255	0.180958	0.8566
C(21)	3.81E-13	8.870638	4.30E-14	1.0000
C(22)	-0.378232	8.870638	-0.042639	0.9660
C(23)	-1.807807	9.049512	-0.199768	0.8418
C(24)	1.918114	5.379649	0.356550	0.7217
C(25)	65.87673	31.09880	2.118305	0.0352
C(26)	0.000591	0.004651	0.127144	0.8989
C(27)	-0.000684	0.008711	-0.078472	0.9375
C(28)	-2.59E-16	0.009100	-2.85E-14	1.0000

C(29)	0.003643	0.009105	0.400131	0.6894
C(30)	-0.005324	0.008623	-0.617343	0.5376
C(31)	0.001599	0.004420	0.361656	0.7179
C(32)	1.753413	0.123234	14.22834	0.0000
C(33)	-0.765588	0.241324	-3.172444	0.0017
C(34)	-3.35E-16	0.254549	-1.31E-15	1.0000
C(35)	-0.258822	0.254615	-1.016523	0.3104
C(36)	0.404360	0.249407	1.621285	0.1063
C(37)	-0.144179	0.147217	-0.979360	0.3284
C(38)	-0.041798	0.316043	-0.132256	0.8949
C(39)	0.005540	0.527786	0.010497	0.9916
C(40)	-3.73E-15	0.501954	-7.43E-15	1.0000
C(41)	-0.785673	0.502187	-1.564502	0.1190
C(42)	1.288559	0.517471	2.490108	0.0135
C(43)	-0.546094	0.336669	-1.622050	0.1061
C(44)	0.013175	0.211384	0.062327	0.9504
C(45)	0.000761	0.336822	0.002258	0.9982
C(46)	7.11E-16	0.331667	2.14E-15	1.0000
C(47)	0.148861	0.331685	0.448802	0.6540
C(48)	-0.321622	0.338441	-0.950305	0.3429
C(49)	0.191967	0.201152	0.954338	0.3409
C(50)	0.367556	1.228967	0.299077	0.7651
C(51)	-0.000526	0.001386	-0.379793	0.7044
C(52)	0.000504	0.002595	0.194130	0.8462
C(53)	-7.64E-17	0.002711	-2.82E-14	1.0000
C(54)	0.000350	0.002711	0.129093	0.8974
C(55)	-0.001252	0.002569	-0.487310	0.6265
C(56)	0.000842	0.001314	0.640766	0.5223
C(57)	0.017777	0.036707	0.484299	0.6286
C(58)	-0.015579	0.071901	-0.216680	0.8286
C(59)	-3.23E-17	0.075842	-4.26E-16	1.0000
C(60)	0.180759	0.075842	2.383351	0.0180
C(61)	-0.301764	0.074275	-4.062803	0.0001

C(62)	0.135252	0.043853	3.084187	0.0023
C(63)	1.792844	0.094164	19.03956	0.0000
C(64)	-0.827532	0.157253	-5.262442	0.0000
C(65)	-2.68E-16	0.149556	-1.79E-15	1.0000
C(66)	-0.824678	0.149556	-5.514175	0.0000
C(67)	1.518554	0.153868	9.869228	0.0000
C(68)	-0.726184	0.100183	-7.248555	0.0000
C(69)	-0.008364	0.062962	-0.132847	0.8944
C(70)	-0.006517	0.100353	-0.064937	0.9483
C(71)	-1.22E-15	0.098820	-1.24E-14	1.0000
C(72)	0.170582	0.098820	1.726197	0.0856
C(73)	-0.292283	0.100812	-2.899280	0.0041
C(74)	0.118153	0.059930	1.971523	0.0498
C(75)	-0.054010	0.346443	-0.155899	0.8762
C(76)	-0.001003	0.002311	-0.434150	0.6646
C(77)	0.000794	0.004328	0.183427	0.8546
C(78)	1.09E-16	0.004521	2.41E-14	1.0000
C(79)	0.000999	0.004521	0.220839	0.8254
C(80)	-0.001517	0.004284	-0.354079	0.7236
C(81)	0.000205	0.002192	0.093361	0.9257
C(82)	0.004086	0.061211	0.066747	0.9468
C(83)	0.001628	0.119899	0.013578	0.9892
C(84)	-1.60E-15	0.126472	-1.27E-14	1.0000
C(85)	0.047349	0.126472	0.374387	0.7085
C(86)	-0.047445	0.123857	-0.383059	0.7020
C(87)	0.043432	0.073128	0.593917	0.5531
C(88)	-0.133138	0.157024	-0.847880	0.3974
C(89)	0.029276	0.262228	0.111644	0.9112
C(90)	-1.34E-15	0.249393	-5.37E-15	1.0000
C(91)	0.036633	0.249393	0.146890	0.8833
C(92)	-0.172169	0.256583	-0.671007	0.5029
C(93)	0.033944	0.167061	0.203181	0.8392
C(94)	1.655586	0.104993	15.76850	0.0000

C(95)	-0.710722	0.167344	-4.247079	0.0000
C(96)	2.14E-15	0.164787	1.30E-14	1.0000
C(97)	-0.699151	0.164787	-4.242747	0.0000
C(98)	1.179409	0.168110	7.015690	0.0000
C(99)	-0.499988	0.099936	-5.003073	0.0000
C(100)	0.460657	0.577713	0.797379	0.4260
Determinant residual covariance		2.888875		

* Source: author's computations



The breakdown of individual models

For the GDP

Table 8:1

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	1.814974	0.097227	18.66740	0.0000
C(2)	-0.948826	0.127078	-7.466474	0.0000
C(5)	0.215028	0.125680	1.710910	0.0909
C(6)	-0.122512	0.093848	-1.305427	0.1954
C(11)(Oil rent)	1.604739	0.433902	3.698389	0.0004
C(25)(oil rent)	49.35349	21.29902	2.317172	0.0230
Determinant residual covariance		566.3710		
Equation: $GDP = C(1)*GDP(-1) + C(2)*GDP(-2) + C(5)*GDP(-5) + C(6)*GDP(-6) + C(11)*OIL_RENT(-5) + C(25)$				
Observations: 87				
R-squared	0.997110	Mean dependent var		2216.120
Adjusted R-squared	0.996932	S.D. dependent var		445.2525
S.E. of regression	24.66423	Sum squared resid		49274.27
Durbin-Watson stat	2.173908			

* Source: author's computations

For Oli rent Model

Table 8:2

	Coefficient	Std. Error	t-Statistic	Prob.
C(32)	1.744877	0.077886	22.40294	0.0000
C(33)	-0.748886	0.077466	-9.667340	0.0000
C(42) (FDI)	0.002091	0.052636	0.039716	0.9684
Determinant residual covariance		1.017360		
Equation: $OIL_RENT = C(32)*OIL_RENT(-1) + C(33)*OIL_RENT(-2) + C(42)$				

*FDI(-5)			
Observations: 84			
R-squared	0.994187	Mean dependent var	23.80448
Adjusted R-squared	0.994044	S.D. dependent var	13.30906
S.E. of regression	1.027152	Sum squared resid	85.45827
Durbin-Watson stat	1.795024		

* Source: author's computations

For FDI Model

Table 8:3

	Coefficient	Std. Error	t-Statistic	Prob.
C(60) (Oil rent)	0.167521	0.033008	5.075100	0.0000
C(61) (Oil rent)	-0.270361	0.063442	-4.261510	0.0001
C(62) (Oil rent)	0.109548	0.036976	2.962680	0.0041
C(63)	1.817158	0.084875	21.40980	0.0000
C(64)	-0.842806	0.111143	-7.583050	0.0000
C(66)	-0.846039	0.106630	-7.934374	0.0000
C(67)	1.554302	0.145431	10.68758	0.0000
C(68)	-0.738511	0.088941	-8.303390	0.0000
C(73) (Pol insta)	-0.023210	0.038250	-0.606788	0.5458
C(74) (Poli insta)	0.008252	0.037464	0.220266	0.8262
Determinant residual covariance		0.071342		
Equation: FDI = C(60)*OIL_RENT(-4) + C(61)*OIL_RENT(-5) + C(62)*OIL_RENT(-6) + C(63)*FDI(-1) + C(64)*FDI(-2) + C(66)*FDI(-4) + C(67)*FDI(-5) + C(68)*FDI(-6) + C(73)*POL_INS(-5) + C(74)*POL_INS(-6)				
Observations: 87				
R-squared	0.986128	Mean dependent var	0.131235	

Adjusted R-squared	0.984506	S.D. dependent var	2.280895
S.E. of regression	0.283914	Sum squared resid	6.206730
Durbin-Watson stat	2.112705		

* Source: author's computations

For Political instability Model

Table 8:4

	Coefficient	Std. Error	t-Statistic	Prob.
C(94)	1.843996	0.079275	23.26090	0.0000
C(95)	-0.848549	0.111580	-7.604867	0.0000
C(97)	-0.717244	0.117844	-6.086383	0.0000
C(98)	1.307646	0.149171	8.766075	0.0000
C(99)	-0.594513	0.079114	-7.514648	0.0000
Determinant residual covariance		0.212689		
Equation: POL_INS = C(94)*POL_INS(-1) + C(95)*POL_INS(-2) + C(97) *POL_INS(-4) + C(98)*POL_INS(-5) + C(99)*POL_INS(-6)				
Observations: 87				
R-squared	0.995019	Mean dependent var	6.658120	
Adjusted R-squared	0.994776	S.D. dependent var	6.572266	
S.E. of regression	0.475035	Sum squared resid	18.50394	
Durbin-Watson stat	1.904209			

* Source: author's computations

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