Inflation and Economic Growth in Middle East Countries; A Threshold Panel Approach

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Abstract

Economists and policymakers worldwide consider economic growth and inflation as crucial macroeconomic variables. The correlation between these two variables has been a captivating topic in recent decades, but the literature lacks clarity on this relationship. Therefore, this study aims to investigate the connection between inflation and economic growth in Middle Eastern countries during the 2000-2021 period using a threshold panel model. The empirical findings suggest that there is a nonlinear relationship between inflation and economic growth in these countries. Specifically, when inflation is below 10.1 percent, it has not a significant impact on economic growth. However, beyond this threshold level of inflation, it has a significant negative impact on economic growth. High inflation as a way of increasing inflation expectations may increase the cost of production and decrease production and economic growth. Furthermore, high inflation leads to high volatility in inflation expectations which increases uncertainty in investment and production. This volatility damages people's confidence in government policies which may decrease the effectiveness of monetary and fiscal policies in the economy. Moreover, high inflation decreases the competitive power of domestic producers against foreign producers which decreases exports and ultimately leads to decreased economic growth.

Keywords: Inflation, Economic Growth, Middle East Countries, Threshold Panel Approach.
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1. Introduction

The correlation between inflation and economic growth is a captivating topic in macroeconomics. Previous research has yielded inconsistent findings regarding this relationship. Some scholars, such as Cameron et al (1996), Dorrance (1963), and Sidrauski (1967), have found no significant correlation between inflation and economic growth. Conversely, other researchers, including Mallik and Chowdhury (2001), Shi (1999), and Tobin (1965), have concluded that inflation has a positive impact on economic growth. Meanwhile, Andrés Domingo & Hernando Castellet (1997), Barro (1996), De Gregorio (1992), Friedman (1956), Gylfason (1991, 1998), Saeed (2007), and Stockman (1981) have discovered that inflation has a negative effect on economic growth. Finally, some scholars have proposed that there is a nonlinear connection between inflation and economic growth. Fischer (1993), Sarel (1996), Ghosh and Phillips (1998), Bruno and Easterly (1998), Khan and Senhadii (2001), Kremer et al (2013), and Vinayagathasan (2013) suggest that there is an optimal inflation rate that maximizes economic growth. Prior to the threshold value of inflation or during the low-inflation regime, there is a positive correlation between inflation and growth; however, after the threshold value or during the high-inflation regime, there is a negative correlation between inflation and growth. This paper examines the nonlinear relationship between inflation and economic growth in Middle Eastern countries using a dynamic threshold panel model.

According to Kremer et al (2013), high inflation can have negative effects on long-term economic growth, but Barro (1996) suggests that the evidence for this relationship is not conclusive. Additionally, Blanchard et al (2010) argue that it is difficult to determine the impact of inflation on growth in low inflation environments. Therefore, more research is needed to fully understand the relationship between inflation and economic growth.

Policy makers in developing countries are particularly interested in understanding the determinants of economic growth. Inflation is one factor that can have an ambiguous effect on growth. This paper aims to investigate the relationship between inflation and economic growth in Middle Eastern countries including

Egypt, Iran, Turkiye, Saudi Arabia, United Arab Emirates (UAE), Jordan, Oman, Kuwait and Bahrain. The insufficient research on the relationship between inflation and growth in Middle Eastern countries has inspired us to write this paper and shed light on this topic. Additionally, given the impact of the COVID-19 pandemic on economic growth, we have incorporated a novel approach by using dummy variables to assess its effect on Middle Eastern countries.

This paper is divided into five sections. The second section provides a review of the relevant literature on the topic, while the third section outlines the econometric model used in the analysis. Section four presents the empirical results, and the final section draws conclusions.

2. Review of Literature

Economists are increasingly in agreement that inflation has a decreasing impact on long-term economic growth. However, empirical studies on the relationship between inflation and growth have been unclear. Early studies by Dorrance (1963) and Johanson (1967) found no connection between inflation and growth, while later studies by Fischer (1993) and Barro (1996) found a small but significant impact. Mallik & Chowdhury (2001) examined the relationship between inflation and GDP growth in four South Asian countries and found a positive long-term relationship, suggesting that moderate inflation can be beneficial for growth. In contrast, Gillman & Harris (2010) studied 13 transition countries over a period of 1990-2003 and found a strong negative effect of inflation on growth. Sala-i-Martin (1997) suggests that linear cross-country growth regressions are not robust enough to fully understand the relationship between inflation and long-term growth, as it may be non-linear. For example, Bruno and Easterly (1998) showed that the effect of inflation on growth increases after it exceeds a threshold level of 40%. This non-linearity is not limited to developing countries with hyperinflation but also applies to developed countries with lower inflation targets. López-Villavicencio and Mignon (2011) conducted a study on the impact of inflation on economic growth in various countries, including both developed and developing economies. They utilized a dynamic GMM panel model with smooth transition and discovered that

inflation has a non-linear effect on economic growth. Their research revealed that there is a threshold beyond which inflation negatively affects growth, while below this threshold, it enhances growth for advanced countries. Similarly, Sergii (2009) investigated the relationship between inflation and growth in CIS countries from 2001 to 2008 and found that there is also a non-linear relationship between the two variables. The threshold inflation rate was identified as 8%. In another study, Fakhri (2011) examined the impact of inflation on economic growth in Azerbaijan from 2000 to 2009. The results showed that there is a non-linear relationship between the two variables, with a threshold level of inflation at 13%. Below this level, inflation has a significant positive impact on economic growth; however, when it exceeds this threshold, the relationship becomes negative. Hwang and Wu (2011) analyzed official provincial data from China spanning from 1986 to 2006 to investigate the nonlinear effects of inflation on economic growth. They found that there is also an inflation threshold effect in China. Above the threshold of 2.50%, every one-percentage point increase in the inflation rate impedes economic growth by 0.61%, while below this threshold, every one-percentage point increase in the inflation rate stimulates growth by 0.53%. According to Vaona (2012), the intertemporal elasticity of substitution of working time is a crucial factor in determining the relationship between inflation and economic growth. When this parameter is set to zero, the relationship is weak and hump-shaped, but when it is greater than zero, inflation has a significant negative impact on growth. Ayyoub et al (2011) have also found that inflation can be detrimental to economic growth beyond a certain threshold level, and recommend that policymakers in Pakistan keep inflation below 7% and maintain stability. Seleteng et al (2013) used a Panel Smooth Transition Regression (PSTR) method to estimate the threshold level of inflation in the Southern African Development Community (SADC) region and found it to be 18.9%, with a smooth but rapid transition from low to high inflation regimes. Baglan and Yoldas (2014) estimated a flexible semi parametric panel data model that considers nonlinear effects of inflation on economic growth in developing economies. They discovered that inflation only has a negative impact on growth after reaching a threshold of 12%, and that models with restrictive functional form assumptions tend to underestimate the marginal effects of inflation on economic

growth. Manamperi (2014) investigated the short and long-run relationships between inflation and economic growth in BRICS countries using ARDL and VAR models over three decades. The results showed that only India had a positive long and short-run relationship between inflation and economic growth, while Brazil, Russia, China, and South Africa all had significant negative short-run relationships. Kumar and Gupta (2014) utilized three methods, including spline regression, VAR, and non-linear regression, to determine the threshold level of inflation in the inflation-growth nexus for the Indian economy using quarterly data from 2004-2013. They found that the threshold level of inflation was estimated to be 7.7%. Bittencourt et al (2015) conducted a panel data analysis to investigate the impact of inflation on economic growth in 15 sub-Saharan African countries from 1980-2009. Their findings revealed that inflation had a negative effect on growth and offset the Mundell-Tobin effect, ultimately reducing economic activity. Ibarra and Trupkin (2016) examined the inflation-growth nexus in developing countries from 1950-2009 using a threshold panel model. They discovered that developing countries had higher estimated thresholds of inflation than developed countries and that institutional quality played a significant role in determining these thresholds. Additionally, they found that increasing institutional quality increased the cost of inflation. Dammak and Helali (2017) studied the relationship between inflation and economic growth in Tunisia from 1993-2012. Their empirical results showed that there was one threshold value for inflation indicating nonlinearity in the nexus between inflation and growth in Tunisia. The estimated threshold value was approximately 3.48%, with inflation fostering economic growth before this value but decreasing it above this level.

Ahmad (2022) using an ARDL model, investigated the relationship between inflation and economic growth in Pakistan. He analyzed data from 1985 to 2019 and finds that there is a negative relationship between inflation and economic growth in Pakistan. The study suggested that policymakers should focus on controlling inflation to promote economic growth in the country.

Madurapperuma (2023) has examined the relationship between money supply, inflation and economic growth of Sri Lanka during 1990-2021 using co-integration and causality analysis. The results of the paper has shown that money supply has

caused inflation and inflation has had a negative effects on both short- and long-term economic growth. Also, in long-term, the increase in money supply has a negative effect on economic growth.

Numerous economists concur that there exists a non-linear correlation between inflation and economic growth in both developed and developing nations. However, the crucial inquiry is how inflation levels impact economic growth. This paper aims to address this issue specifically for Middle Eastern countries. To the best of our knowledge, no research has been conducted on the non-linearity of inflation-growth in Middle Eastern nations.

3. Model Specification and Data Description

3-1. Model Specification

Following Kremer et al (2013), we have used the following model:

$$growth_{it} = \beta_1 + A(Z_t \leq h)[\beta_2 inf_{it}] + A(Z_t > h)[\beta_3 inf_{it}] + \varphi X_{it} + \varepsilon_t \qquad (1)$$

$$A(Z_t > h) = \begin{cases} 1 & if \quad Z_t > h \\ 0 & if \quad Z_t \leq h \end{cases} \qquad (2)$$

$$A(Z_t \leq h) = \begin{cases} 1 & if \quad Z_t \leq h \\ 0 & if \quad Z_t > h \end{cases} \qquad (3)$$

Where "$growth_{it}$" is the GDP growth, "inf_{it}" is the inflation rate, and Z_t is the threshold variable, which in this case is the inflation rate. X_{it} is a vector of control variables consisting of logarithm of oil rent, population growth, growth of capital formation, school secondary enrolment (as an index for human capital), and the logarithm of trade share in GDP (as an index for trade openness). Also, we have used a dummy variable for the COVID-19 pandemic index, with a value of 1 for the years 2020 and 2021, and 0 for all other years. The value of h is the threshold value, which we obtain by minimizing the residual sum of squares in equation 1. We can find the threshold value by estimating regression (1) using OLS method and finding the minimum residual sum of squares with a re-ordered threshold variable (Nademi & Winker, 2022). In this paper, the threshold variable is inflation rate. We used Hansen's method (1999) to estimate the model.

3-2. Data Description

The data was gathered from the World Development Indicators (WDI), and based on this data, we present statistics regarding ten Middle Eastern countries, including Egypt, Iran, Turkiye, Saudi Arabia, United Arab Emirates (UAE), Qatar, Jordan, Oman, Kuwait and Bahrain. Among these countries, Turkiye, Saudi Arabia, and Iran had the largest economies in terms of GDP-PPP in 2021. Some Middle Eastern countries heavily rely on oil revenues such as Saudi Arabia, Kuwait, Qatar, UAE and Iran. This oil dependency has various effects on macroeconomic variables like inflation, economic growth and income inequality (Nademi, 2018). For example, when oil revenues decrease in Iran's government budget deficit increases and financing the deficit with borrowing from central bank leads to an increase in monetary base, liquidity and inflation. On the other hand, increasing oil revenues can help policy makers control exchange rates and finance imported goods like capital and intermediate goods for producers which can boost domestic production and economic growth. However, if increasing oil revenues lead to an increase in government size and rent-seeking activities it may be subject to the resource curse hypothesis which can distort economic growth.

Figures 1-2 illustrate economic growth rates, and inflation rates respectively for ten Middle Eastern countries from 2000 to 2021. Qatar had the highest average economic growth rate of around 8.1% during this period while Oman and Kuwait had the lowest average economic growth rates of approximately 2.97%. The maximum economic growth rate was recorded in Qatar at 26.17% in 2006 while Kuwait had the lowest economic growth rate at -8.85% in 2020.

Iran, with an average inflation rate of about 19.4%, have the highest inflation rates among Middle Eastern countries from 2000 to 2021. Bahrain, with an average inflation rate of about 1.46%, has the lowest inflation rate among Middle Eastern countries. Turkiye had the highest inflation rate among these countries at 54.91% in 2000, while Qatar had the lowest inflation rate at -4.86% in 2009.
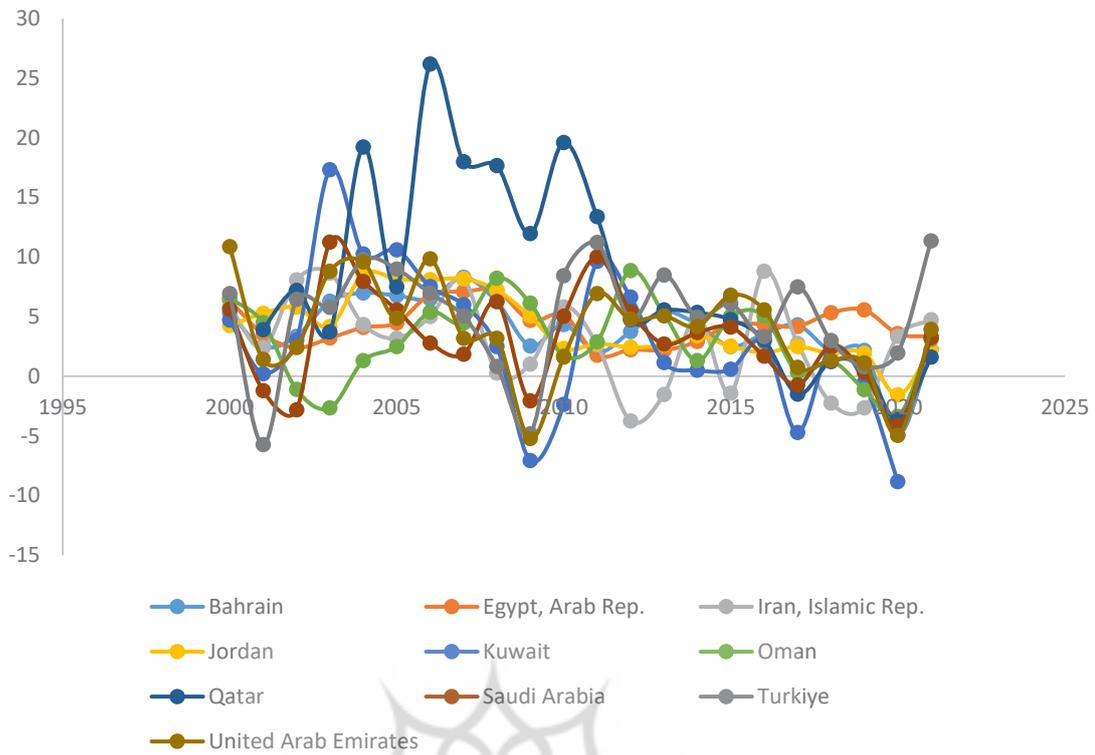
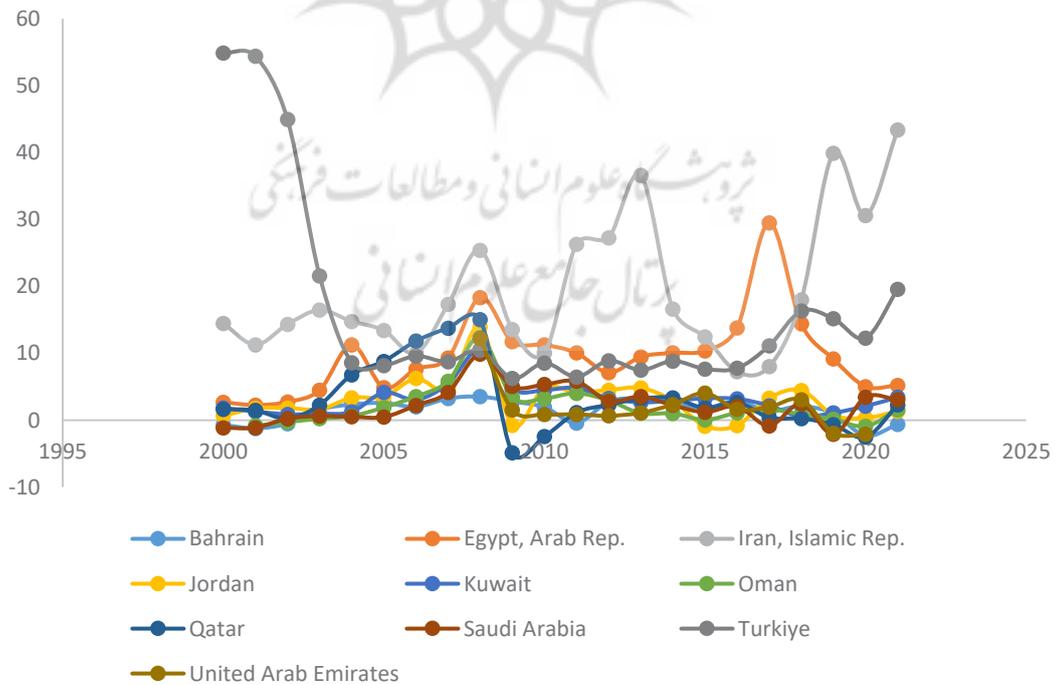**Fig. 1: Economic Growth in Middle East during 2000-2021**

Fig. 2: Inflation in Middle East during 2000-2021

4. Empirical Results

First of all, we have tested unit root of the variables using the Levin, Lin & Chu unit root test. Table 1 shows the results of the unit root test.

Tab. 1: Levin, Lin & Chu unit root test

Variable	Statistic	Test Type	P-Value
Economic growth	-5.04	Intercept	0.00
Inflation	-4.49	Intercept	0.00
Population Growth	-2.20	Intercept and Trend	0.01
Log (Trade openness)	-2.37	Intercept	0.00
Log (Oil Rent)	-3.31	Intercept and Trend	0.00
Growth of Capital Formation	-6.33	Intercept	0.00
School secondary enrolment (Human Capital)	-2.10	Intercept	0.01

(Source: Own Calculations).

According to the Levin, Lin & Chu unit root test, all variables are stationary. Therefore, we can estimate the long-run model using standard methods.

Table 2 presents the results of estimating the model using a dynamic threshold panel approach for Middle East countries from 2000 to 2021.

Tab. 2: Estimation Results for Middle East Countries

Variable	Coefficient	P-Value
Intercept	-8.61	0.33
Inflation before Threshold Value (inf<=0.101)	0.10	0.22
Inflation after Threshold Value (inf>0.101)	-0.03	0.06
Population Growth	0.24	0.01
Log (Trade openness)	1.50	0.52
Growth of Capital Formation	0.13	0.00
School secondary enrolment (Human Capital)	0.04	0.00
Log (Oil Rent)	0.29	0.63
COVID Dummy	-3.41	0.00
R-Square	0.55	
Durbin Watson	2.05	
F-Statistics (P-Value)	8.77 (0.00)	
Jarque-Bera (P-Value)	0.31 (0.85)	

(Source: Own Calculations).

Based on above results, we can conclude following sentences:

There is a non-linear relationship between inflation and economic growth in Middle Eastern countries. When inflation is less than 10.1 percent, it has not a significant impact on economic growth in these countries. However, after this threshold level of inflation, it has a significant negative impact on economic growth. Therefore, policymakers in these countries should be careful about their monetary policy as it may harm economic growth. Only low inflation, around one percent, is not harmful for improving economic growth.

To justify the non-linear impact, we can say that low inflation may increase the incentive of producers to gain more profits and improve production, which then boosts economic growth but its impact is not significant. In contrast, when inflation is high, production costs increase and production decreases, damaging growth. High inflation as a way of increasing inflation expectations may also increase the cost of production and decrease production and economic growth. Furthermore, high inflation leads to high volatility in inflation expectations which increases uncertainty in investment and production. This volatility damages people's confidence in government policies which may decrease the effectiveness of monetary and fiscal policies in the economy. Moreover, high inflation decreases the competitive power of domestic producers against foreign producers which decreases exports and ultimately leads to decreased economic growth. For the Iranian economy, high inflation has distorted economic growth in Iran. The cause of high inflation in Iran is due to its oil dependency and the large size of its government. A big government requires a big budget, resulting in common budget deficits. Financing these deficits by borrowing from the central bank creates excess money and inflation. Additionally, when oil revenue increases, such as during the oil shock in 1973, money creation and inflation occur due to an increase in net foreign assets of the central bank as a way to transfer petrodollars to domestic money. Finally, the Iranian banking system is governmental and enforces some planning by providing cheap loans for economic activities, leading to a large debt of the banking system to the central bank that creates excess money and inflation.

Population growth has a positive impact on economic growth in Middle Eastern countries during 2000-2021. A larger population means a larger pool of potential workers, which can lead to increased productivity and output. Also, a larger population means more consumers, which can lead to increased demand for goods and services, leading to increased production and economic growth. Furthermore, it can lead to more innovation and technological advancements as there are more people with different skills and ideas. Finally, a growing population can attract investment in infrastructure, housing, and other sectors that support economic growth.

The logarithm of trade openness or log (Export+Import/GDP) has not a significant impact on economic growth. There could be several reasons why trade openness, measured as the ratio of exports plus imports to GDP, has not had a significant impact on economic growth in Middle East countries during the period 2000-2021. Some possible explanations are:

1. Limited diversification of exports: Many Middle East countries heavily rely on oil and gas exports, which account for a large share of their total exports. This means that their export base is narrow and vulnerable to fluctuations in global oil prices. Moreover, the production and export of oil and gas are often dominated by foreign companies, which may not contribute much to the local economy beyond royalties and taxes. Therefore, even if trade openness increases, it may not lead to significant economic growth if the export base remains limited.

2. Weak institutional framework: Many Middle East countries suffer from weak governance, corruption, and political instability, which can deter foreign investors and hinder trade flows. Moreover, some countries have protectionist policies that limit imports or favor domestic producers over foreign competitors. These factors can reduce the benefits of trade openness and limit its impact on economic growth.

3. Structural challenges: Some Middle East countries face structural challenges such as high unemployment rates, low productivity levels, and inadequate infrastructure that can hinder economic growth regardless of trade openness. For example, youth unemployment rates in some countries exceed 25%, which

indicates a mismatch between labor supply and demand. Similarly, low productivity levels can limit the competitiveness of local firms in global markets.

4. External shocks: Finally, external shocks such as wars, conflicts, or natural disasters can disrupt trade flows and damage infrastructure, leading to negative impacts on economic growth. Many Middle East countries have experienced such shocks during the period 2000-2021, which may have offset any positive effects of trade openness on economic growth.

The growth of capital formation has had a significant positive impact on economic growth for several reasons. Investment in new machinery and equipment can lead to increased productivity as workers are able to produce more output with the same amount of input. This can lead to higher profits for firms and higher wages for workers. Also, investment in research and development can lead to the development of new technologies that can improve production processes, reduce costs, and increase efficiency. Furthermore investment in infrastructure projects such as roads, bridges, and airports can create jobs and stimulate economic activity. Moreover, capital formation requires savings from households and firms which can be used for investment purposes. This leads to a higher level of savings in the economy which can be used for future investment projects. 5. Improved human capital: Investment in education and training programs can improve the skills of workers which can lead to increased productivity and higher wages.

Human capital has had a significant positive impact on economic growth. Human capital enhances productivity by increasing the efficiency and effectiveness of workers. Skilled workers are able to produce more output per unit of time than unskilled workers. Also, human capital promotes innovation by enabling individuals to develop new ideas, technologies, and products that can improve economic production. Furthermore, human capital encourages entrepreneurship by providing individuals with the skills and knowledge needed to start and run successful businesses. Finally, Human capital allows individuals to specialize in specific tasks or industries, which leads to greater efficiency in production.

Oil rent has had not a significant impact on economic growth. This could be due to several factors related to the resource curse hypothesis:

1. Dependence on a single commodity: Middle East countries heavily rely on oil exports as their main source of revenue. This dependence on a single commodity makes them vulnerable to fluctuations in global oil prices and demand.

2. Rent-seeking behavior: The abundance of oil rents can create incentives for rent-seeking behavior among elites, leading to corruption and mismanagement of resources.

3. Lack of diversification: The focus on oil exports has led to a neglect of other sectors such as manufacturing and agriculture, which could have contributed to economic growth.

4. Political instability: The concentration of wealth and power in the hands of a few individuals or groups can lead to political instability and conflict.

The COVID pandemic has had a negative impact on economic growth in Middle East countries for several reasons:

1. Decline in oil prices: Middle East countries heavily rely on oil exports as a major source of revenue. The pandemic led to a decline in global demand for oil, resulting in a significant drop in oil prices. This has had a severe impact on the economies of these countries.

2. Disruption of supply chains: The pandemic has disrupted global supply chains, leading to shortages of essential goods and services. This has affected the manufacturing and service sectors, which are important contributors to the economy.

3. Reduced tourism: Many Middle East countries like UAE, Turkiye, and Saudi Arabia rely heavily on tourism as a source of revenue. The pandemic has led to travel restrictions and reduced demand for travel, resulting in a significant decline in tourism revenues.

4. Job losses: The pandemic has led to job losses across various sectors, including hospitality, retail, and manufacturing. This has resulted in reduced consumer spending and lower economic growth.

5. Government spending: Governments have had to spend significant amounts of money on healthcare and social welfare programs to mitigate the impact of the pandemic. This has resulted in increased government debt and reduced funds for other development projects.

The results of Durbin Watson and Jarque-Bera tests show no auto correlation and normality in error terms respectively. The F-statistics also indicate that the regression is significant.

Due to high inflation in Iran and the possible impact of the Iranian economy on the results of other Middle Eastern countries, we excluded Iran from our analysis and re-estimated the model for the remaining countries.

Tab. 3: Estimation results for Middle East countries without Iranian economy

Variable	Coefficient	P-Value
Intercept	-2.97	0.73
Inflation before Threshold Value (inf<=0.086)	0.15	0.07
Inflation after Threshold Value (inf>0.086)	-0.01	0.27
Population Growth	0.23	0.01
Log (Trade openness)	-0.16	0.94
Growth of Capital Formation	0.12	0.02
School secondary enrolment (Human Capital)	0.06	0.03
Log (Oil Rent)	0.72	0.24
COVID Dummy	-4.36	0.00
R-Square	0.62	
Durbin Watson	1.89	
F-Statistics (P-Value)	10.16 (0.00)	
Jarque-Bera (P-Value)	4.83 (0.09)	

(Source: Own Calculations).

We found that in the sample without Iran, the threshold inflation has decreased by about two percent. However, there still exists a nonlinear relationship between inflation and growth. In this new sample, we found that before the threshold of 8.6%, inflation has a significant positive impact on economic growth. This effect was previously insignificant when Iran was included in the sample. Additionally,

beyond this new threshold value, inflation has a negative but insignificant effect on economic growth. This is in contrast to when Iran was included in the sample where this effect was significant. Therefore, adding Iran in the sample highlights the negative effect of inflation on economic growth and mitigates its positive effect in low inflation regimes. The other coefficients remain constant.

Therefore, in Middle Eastern countries, there is a non-linear relationship between inflation and economic growth. Among these countries, Iran has the worst rank of inflation. The Iranian economy is highly dependent on oil revenue. When oil revenue increases, the foreign assets of the Iranian central bank will increase, leading to an increase in monetary base, liquidity, and inflation. When oil revenue decreases, the government focuses on budget deficits and borrows from the central bank, leading to an increase in monetary base, liquidity, and inflation. For policymakers in Iran, it is necessary to make the government budget independent of oil revenue to control inflation.

5. Conclusion

The correlation between inflation and economic growth is a crucial aspect of macroeconomics that has garnered the attention of many researchers and policymakers. While some studies have found a positive relationship between the two variables, others have discovered a negative or non-linear relationship. This paper focuses on investigating this relationship in Middle Eastern countries using a threshold panel model. The results indicate that there is indeed a non-linear relationship between inflation and economic growth in these countries, with inflation having an insignificant impact on growth when it is below 10.1 percent but a negative impact when it exceeds this threshold. Therefore, policymakers in Middle Eastern countries such as Iran should aim to keep inflation under control through rule monetary policy or inflation targeting in order to promote economic growth.

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Observation Contribution

It is important to note that all authors have contributed equally to the work. Each author has played a crucial role in designing and conducting literature, analyzing data, and interpreting results. Additionally, they have collaborated closely in writing and revising the manuscript. The equal contribution of all authors highlights their collective effort and dedication to this study.

Conflict of Interest

The authors of this paper declare that they have no conflict of interest.

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تورم و رشد اقتصادی در کشورهای خاورمیانه: رویکرد پانل آستانه

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چکیده

اقتصاددانـان و سیاست‌گذاران در سراسـر جهـان رشد اقتصادی و تـورم را به‌عنوان متغیرهـای کلان اقتصادی مهـم درنظر می‌گیرنـد. هم‌بستگی بین ایـن دو متغیـر موضوعـی جـذاب در دهه‌هـای اخیـر بـوده اسـت، امـا ادبیـات درمورد این رابطه چنـدان روشن نیست؛ بنابرایـن، این پژوهـش بـا هدف بررسـی ارتبـاط بیـن تـورم و رشـد اقتصادی در کشورهای خاورمیانه طـی دورهٔ ۲۰۲۱–۲۰۰۰م. بـا اسـتفاده از مـدل پانـل آسـتانه‌ای انجـام شـده اسـت. یافته‌هـای تجربـی نشان می‌دهـد کـه بیـن تـورم و رشـد اقتصادی در ایـن کشورها رابطـهٔ غیرخطی وجـود دارد. به‌طـور خـاص، زمانی‌کـه تـورم زیـر ۱۰٫۱٪ باشـد، افزایش تـورم تأثیـری مثبـت امـا بی‌معنی بـر رشـد اقتصادی دارد. بـا این‌حـال، فراتـر از ایـن سـطح آسـتانه، افزایش تـورم تأثیـر منفـی قابل‌توجهی بـر رشد اقتصـادی دارد.

کلیدواژگان: تورم، رشد اقتصادی، کشورهای خاورمیانه، رویکرد پانل آستانه.

طبقه‌بندی JEL: E31, O47, N15, C24.

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