

THE LINK BETWEEN POLITICAL STABILITY AND GDP GROWTH RATE: A PANEL DATA ANALYSIS FOR MENAT COUNTRIES¹

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ABSTRACT

Political stability, like all other stability indices, has important effects on any economy. In the context of new political economy, the importance of political stability/instability on the economic indicators of the countries has recently been discussed. This study aims to reveal the linkage between political stability and GDP growth rate of the Middle East and North Africa and Turkey (MENAT countries) using annual dataset from the period 1984 to 2014. The results of the panel non-causality test introduced by Dumitrescu and Hurlin showed that GDP growth seemed to generate political stability, but not vice versa. We also calculated the elasticity of political stability to GDP growth. Every 1% increase in GDP growth would result in a 0,02% increase in political stability index in the selected country group. Therefore, this result supports the reality that a country's GDP growth in selected countries is capable of stimulate having a more stable political environment.

Key Words: political stability, economic growth, panel data

JEL Classification: C23, F43, P16

1. INTRODUCTION

Economists and policy makers have produced a large body of literature on the effects of political instability on economic performance for so long, especially concerning output and growth. However, no agreement on a causal relationship has been reached. Some studies supported that political stability influences economic growth, but the economic growth does not influence political stability (Alesina et al., 1996), whilst other studies showed that there is only a one way causality that directs from economic growth to political stability (Borner and Paldam, 1998), or showed that the sign of the causality is bi-directional (Gyinmah-Brempong and Traynor, 1999). In addition, there have been studies supporting that there is no causality between economic growth and political stability (Campos and Nugent, 2000).

There are several valid explanations to establish the relationship of economic growth and political stability. Blanco and Grier (2009) state that political instability influences investors' decisions for new capital projects until stability is restored, because investments in physical capital are not easily reversed. Alesina et al. (1996) argued that unstable political environment generates uncertainty which may reduce private investment, physical capital accumulation and therefore economic growth. On the other hand, weak economic performance may lead to a government collapse and political instability.

From this point of view, this study investigates the presence of the second generation causal relationships between political stability and GDP growth rate for MENAT countries during the periods 1984-2014.

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The rest of the paper proceeds as follows. Next section establishes the links between the political stability and economic growth through the literature review. Section 3 describes the dataset and presents the empirical methodology and the empirical findings. The final section offers the concluding points.

2. LITERATURE REVIEW

The relationship between political instability and economic growth has attracted the attention of economists over the last three decades. Political instability is regarded by economists as a serious malaise harmful to economic performance. In this section, some earlier studies regarding the relationship between political stability and economic growth are discussed

Chen and Feng (1996) showed that regime instability, political polarization and government repression have negatively affected economic growth. Alesina et al. (1996) tested the link between growth rates of GDP and government changes in a sample of 113 countries during the period 1950-1982 and found that in countries and time periods with a high propensity of government collapse, economic growth is significantly lower than otherwise. Alesina and Perotti (1996) argue that income inequality increases political instability which, in turn, decreases aggregate investment in a country. Devereux and Wen (1998) developed a simple model which relates political instability to economic growth and the share of government in GDP. The authors found that political instability reduces economic growth and increases the government's share of GDP (Kılıç et al. 2015).

Jong-A-Pin (2009) investigated the effects political risk on economic growth for a sample of 98 countries in the period 1984-2003. He suggested that civil protest, politically motivated aggression, instability within the political regime and instability of the political regime, which are identified the dimensions of political instability have different effects on long-run economic growth and found that only instability of the political regime and civil protest are significantly related to long-run economic growth.

Examining the relationship between political instability and economic growth in 20 Western Europe countries for the period 1950-2004, Dimitraki (2010) found that there is a bi-directional causal relationship between the variables and stated that political instability is the driving force of economic growth.

Investigating the effects of political instability on economic growth for 169 countries for the period 1960 to 2004, Aisen and Veiga (2013) used the system-GMM estimator and found that political instability negatively affects economic growth by lowering the rates of productivity growth and, to a smaller degree, physical and human capital accumulation.

Kılıç et al. (2015) used panel least squares estimation method to examine the links between both the business cycles-the components of political stability and the business cycles- aggregate political index (overall score) in the Fragile Five countries, namely Turkey, Indonesia, India, South Africa and Brazil over the period 1986-2013. According to the empirical findings, higher degrees of political instability are associated with lower growth rates of GDP. Moreover, the results suggest that law and order, socio-economic conditions and internal conflict have a positive impact on GDP growth rate.

3. ECONOMETRIC METHODOLOGY

3.1. Data and Model

In the analyzing of the short-run and long-run relationships between the variables by incorporating a balanced panel from the nine MENAT countries consisting of Algeria, Egypt, Israel, Jordan, Morocco, Sudan, Syrian Arab Republic, Tunisia and Turkey this study considers the linear panel data specification as follows:

$$lPr_{it} = c + \beta_1 lGDPgr_{it} + \beta_2 trend + u_{it} \quad (1)$$

where PR is the political risk data are from the International Country Risk Guide (ICRG) (2010) and GDPgr is Gross Domestic Product growth rate, PPP (constant 2011, international \$) and the data is taken from World Bank's World Development Indicators Database (2015). The annual data is used. This sample is determined based on the data availability. The variables are converted to natural logarithms.

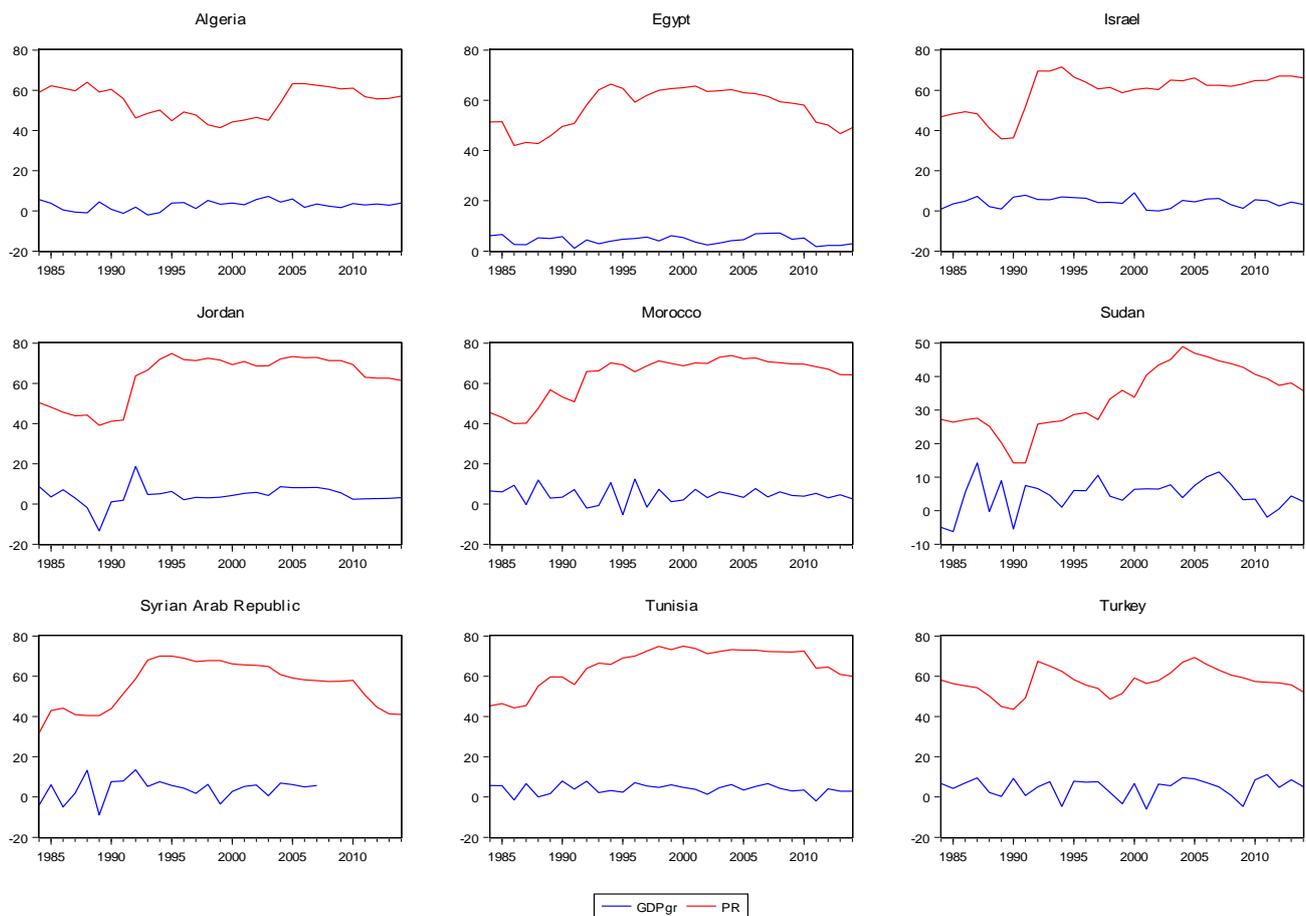
Political risk (PR). The political risk data are from the International Country Risk Guide (ICRG) (2010). These data are available from 1984 onwards. This index captures countries' overall political risk and includes scores on countries' government stability (measuring the government's ability to carry out its policies and stay in office); socio-economic conditions (measuring socio-economic pressures at work in society); investment profile (measuring investment risk that is not covered by financial and economic risk

components); international conflict (measuring political violence in the country); external conflict (measuring the risk to the incumbent government from foreign actions); military in politics (measuring the influence of the military in politics); religious tensions (measuring religious tensions of a single religious group); ethnic tensions (measuring the degree of tension among ethnic groups attributable to racial, nationality, or language divisions); corruption (measuring the level of corruption); democratic accountability (measuring the responsiveness of government to its people); and bureaucracy quality (measuring the institutional strength and impartiality of the legal system).

The political risk index ranges from 0 to 100. If the points are in the 50%-60% range it is high risk, in the 60%-70% range moderate risk, in the 70%-80% range low risk, and in the 80-100% range very low risk.

Figure 1 illustrates the trend of the two variables (PR and GDPgr) for the selected nine countries for the period 1984 to 2014.

Figure 1: Political Stability and GDP Growth rates of the Middle East and North Africa and Turkey



3.2. Methodology

This paper attempts an econometric model to illustrate the causal and co-integration relationship between political stability and GDP growth. The panel non-causality test developed by Dumitrescu and Hurlin (2012) is used in order to find empirical support for the possibility of a specific direction between the variables.

Before it is conducted causality test between the variables of interest, it is necessary to perform cross-section dependency and unit root tests.

3.2.1. Cross-Sectional Dependence And Slope Homogeneity Tests

We investigate whether the cross-section dependency among the series. For this purpose, we follow Breusch and Pagan (1980)'s Lagrange multiplier test statistic ($CDLM_{BP}$).

The empirical findings of cross-sectional dependence test are presented in Table 1. It is clear that the null of no cross-sectional dependence across the MENAT countries is rejected from Table 1.

Table 1: Results for cross-sectional dependence test

Variable	CDBP test statistic	prob. value
Pr	76,90***	0,00
GDPgr	47,83*	0,09
Model	$\tilde{\Delta}_{adj}$ test statistic	prob. value
$lPr_{it} = c + \beta_1 lGDPgr_{it} + \beta_2 trend + u_{it}$	0,602	0,274

***, * indicate rejection of the null hypothesis at the 1% and %10 levels of significance, respectively.

Source: Authors' estimations.

Panel Stationarity Test

According to Baltagi (2008), it must be controlled whether there exists unit root in the series to obtain unbiased estimations after analyzing cross-section dependency. In this paper, we follow Hadri and Kurozumi (2012)'s panel stationarity test, which takes into account cross sectional dependency among the series. Hadri and Kurozumi (2012)'s panel stationarity test states that under a null hypothesis, series do not contain unit root, while an alternative hypothesis states that series contain unit root. In addition, this test allowing serial correlation and cross-sectional dependence can be used in which both $T < N$ and $T > N$.

According to Table 2, the null hypothesis that all the panel series are stationary is not rejected at all the usual levels of significance, indicating that all the series are stationary.

Table 2: Results for the Hadri-Kurozumi (2012) stationary test

Constant and Trend		
Variable	Z_A^{SPC} Statistic	p-value
Pr	-1,814	0,96
GDPgr	0,650	0,25

Source: Authors' estimations

Panel Non-Causality Test

In this paper, possible causal relationships between political stability-GDP growth are investigated for the MENAT countries via the Dumitrescu and Hurlin (2012)'s non-causality test.

Under the null hypothesis, it is assumed that there is no individual causality relationship from x to y exists. This hypothesis is denoted the Homogeneous Non Causality (HNC) hypothesis. Thus under the null hypothesis of HNC, there is no causal relationship for any of the cross-section units of the panel. The alternative hypothesis is denoted the Heterogeneous Non Causality (HENC) hypothesis. Under the alternative hypothesis, it is assumed that there is a causal relationship from x to y for a subgroup of individuals and β_i may differ across groups.

The Dumitrescu and Hurlin (2012) panel non-causality test results are given in Table 3. According to the findings illustrated in Table 3, GDP growth rate does Granger cause political stability.

Table 3: Results for the Dumitrescu and Hurlin (2012) Panel Granger Non-Causality Test

Direction of Causality	\tilde{Z}_N^{HnC} Test stat.	p-value
Pr \nRightarrow GDPgr	-0,52	0,34
GDPgr \nRightarrow Pr	4,30***	0,00

*** indicates rejection of the null hypothesis at the 1% level of significance.

Based on existing specific causal relationship from GDP growth rate to political stability, we also estimate the relationship between the variables using panel least squares estimator. Before estimating the regression coefficients in, it is aimed to diminish the degree of cross-sectional dependence of the three variables. To perform this aim, we used the time-demeaned the two series2.

$$^2 \ddot{y}_{it} = \beta_1 \ddot{x}_{it} + \ddot{u}_{it}, t=1,2,\dots, T$$

The results of panel estimation are summarized in Table 4. According to Table 4, GDP growth rate has statistically positive effect on political stability index of the MENAT countries. Every 1% increase in GDP growth would result in a 0,02% increase in political stability index in the selected country group. From these empirical findings, we can say that a higher GDP growth rate has guaranteed having a more stable political environment of a country.

Table 4: Results for Panel Least Squares Method

Dependent Variable: log(Pr)

Method: Panel Least Squares

White cross-section standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
logGDPgr	0.022804*	0.012645	1.803436	0.0726
@trend	0.010135***	0.002022	5.011933	0.0000
c	3.834476***	0.031510	121.6923	0.0000

**** indicate rejection of the null hypothesis at the 1% and 10% levels of significance.

Finally, from Table 5 it is found that the estimated country-specific effects reflecting differences in country-specific features of social, cultural, demographic structure, labor markets, tax-benefit systems etc., which are excluded from the regression model on political stability are negative for Algeria and Sudan from the MENAT countries in the sample.

Table 5: Country-specific Effects on Pr

No	Country	Country-specific effects
1	Algeria	-0.046793
2	Egypt	0.013051
3	Israel	0.050791
4	Jordan	0.120591
5	Morocco	0.105974
6	Sudan	-0.520171
7	Syrian Arab Rep.	0.069101
8	Tunisia	0.160305
9	Turkey	0.019606

4. CONCLUSION

Political instability/risk has been regarded by economists as serious malaises harmful to economic performance due to that they lead to a more frequent switch of policies, creating volatility. Particularly, it disrupts market activities and labour relations, which has a direct adverse effect on productivity. In addition, the uncertainty associated with an unstable political environment may reduce investment and the speed of economic development.

In this study, it was examined the empirical link between political stability and GDP growth rate using the most recent panel data (1984-2014) of the MENAT countries. The empirical findings showed that higher GDP growth rate of the MENAT countries is associated with more stable political environment.

Future research could usefully explore the relationship between economic risk indices and GDP growth rate in the MENAT region.

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where $\ddot{y}_{it} = y_{it} - \bar{y}_{it}$ is the time-demeaned data on y, and similarly for \ddot{x}_{it} and \ddot{u}_{it} .

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