DETERMINANTS OF ECONOMIC SUCCESS IN THE MIDDLE EAST AND NORTH AFRICA

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ABSTRACT

Periodically referred to as the "cradle of civilization", an adage reflecting its past economic success and growth, the Middle East and North Africa region continues to serve as an international focal point, albeit a disappointing one in light of its economic potential. Therefore, the purpose of this study is to utilize regression analysis to reexamine the impact of initial conditions, human capital, the investment ratio, macroeconomic performance, trade openness, life expectancy, and natural resource abundance on the growth of the Middle East and North Africa region's real GDP per capita in light of recent events, namely the widespread civilian protests, demonstrations, and toppled dictatorships across the Arab World where high unemployment, security states, a weak private sector, volatile external revenues, and a disproportionate concentration of power in the hands of a few have been the norm for decades.

JEL: O11, O15, C23

KEYWORDS: Economic Growth, MENA Region, Human Capital, Panel Estimation

INTRODUCTION

Given the Middle East and North Africa (MENA) region's valuable coastal access and high levels of urbanization, the relatively unchanged economic discrepancy between the region and the high-income nations of the world from 1913 to the present is a somewhat disconcerting reality (Pamuk, 2006). In fact, the entire regional paradigm has maintained a sort of status quo over the past one hundred plus years; unearned income streams continue to supply an all pervasive state that stifles long term economic growth by engaging in patronage over production. However, this longstanding continuum, threatened by the region's young, educated, and increasingly female labor force, recently faced a sizeable crisis (Malik & Awadallah, 2011).

On December 18, 2010 a series of revolutions known as the Arab Spring Uprising began in Tunisia — where unemployment among university graduates was approaching fifty percent (Mihailovich & Sommer, 2011)— before erupting all over the MENA region and overthrowing the entrenched governmental powers in Tunisia, Egypt, Libya, and Yemen (Central Intelligence Agency, 2012). According to the World Bank (2012), GDP in several of the net oil-importing countries in the MENA region contracted by more than six percent in the first quarter of 2011 due in large part to the turmoil that followed the initial protests before returning to its previous levels by the end of 2011; GDP declines were less dramatic for countries not experiencing large scale protests. Similarly, for oil exporting countries that experienced ample political turmoil like Libya and Yemen, rising oil prices in 2011 did not lead to a higher economic growth (Charafeddine, 2011). Additionally, industrial production in countries that faced major protests in 2010 and subsequent political change in 2011, like Tunisia and Egypt, suffered considerably; the situation has since improved, although the development has been much more volatile in Egypt (World Bank, 2012). Finally, the Arab Spring contributed to unprecedented declines in tourism —which is an important source of income for many countries in the MENA region— and a significant loss of life (World Bank, 2012; The Economist, 2011).

The proximity of the Arab Spring —Bahrain, Jordan, and Syria continue to face ongoing protests at the time of this writing (Central Intelligence Agency, 2012) — renders an accurate empirical assessment of the effects of the uprising on the determinants of economic growth in the MENA region largely impossible. Therefore, our study will merely reassess what factors most stimulate MENA's economic growth, not attempt to quantify the economic impact of the Arab Spring. That being said, the above overview of the current economic condition of the MENA region in the wake of the Arab Spring provides a necessary backdrop for our study.

Our study most closely follows that of Makdisi, Fattah, and Limam (2005), except that we analyze the prominent determinants of MENA's economic growth over the period 1969 to 2010. Therefore, the main contribution of our paper is that it includes data from the most recent decade and captures any initial impact recent events have had on the determinants of MENA's economic growth. Our study empirically shows that the initial level of income, trade openness, and the oil-exporting status of a country have a significant impact on the region's economic growth.

The paper proceeds with a regional comparison of MENA's 1960-2012 growth rates. Section III briefly highlights the existing studies that empirically investigate main economic growth factors in the MENA region, as well as a study that identifies the economic underpinnings of the Arab Spring. Section IV presents the data and the estimation methodologies used in this study. The empirical estimation results are tabulated in section V. We conclude with a discussion of the main findings and their implications.

REGIONAL COMPARISON

Over a year and a half since the Arab Spring's initial inception, two lingering tensions continue to chaff the MENA region: persistent domestic turmoil and a deteriorating external environment (World Bank, 2012). Three main points must be made of this regional phenomenon. One, it may have resulted from the movements' failure to achieve political and macroeconomic stability (World Bank, 2012). Two, it is further evidenced by the underlying dissentions in the reportedly smooth elections in Egypt, Tunisia, and Morocco (World Bank, 2012). And three, it is leading the region into what the World Bank (2012) describes as a "third" crisis (para. 4) —following the "great recession" and "food price" crisis of 2007-2008—.

Yet, MENA's average percentage change in GDP per capita over the past 52 years from 1960 to the present is higher than that of Latin America and the Caribbean as well as Sub Saharan Africa as illustrated in Table 1 —an increase in the average percentage change in GDP per capita is assumed to be positive and an indication of increasing growth rates— . Ergo, although the ongoing expectation dictates that MENA will face abated levels of economic growth during 2012 (World Bank, 2012), future events are best assessed with both a historical and international perspective in mind.

Table 1: Average % Change in Growth Rates by Region

Avg. % Change in Growth Rates	Middle East & N. Africa	East Asia excl. China P.R.	South Asia	Latin America & Caribbean	Sub-Saharan Africa
1960-1970	3.83	2.79	3.92	2.78	2.21
1970-1980	2.56	4.58	0.75	3.54	0.51
1980-1990	-0.05	3.47	3.02	-0.58	-1.12
1990-2000	1.57	3.10	3.20	1.54	-0.45
2000-2012	2.46	3.65	5.44	2.05	2.58
Average	2.07	3.52	3.26	1.87	0.75

Table 1 shows the average percentage change in GDP per capita from 1960 to 2012 for the following five regions: Middle East and North Africa, East Asia excluding the People's Republic of China, South Asia, Latin America and the Caribbean, and Sub-Saharan Africa. The average GDP percentage change in growth rates by region is calculated using data from the World Bank Dataset.

From 1960-1970 MENA's average percentage change in GDP per capita was at least 1.04 percentage points higher than either East Asia —excluding the People's Republic of China for the purposes of this study—, Latin American and the Caribbean, or Sub-Saharan Africa, and only 0.08 points lower than that of South Asia. Subsequently from 1970-1980, MENA lagged behind East Asia by 2.02 points and from Latin America and the Caribbean by 0.98 points while staying ahead of South Asia and Sub-Saharan Africa by at least 1.82 points. Moreover, for the period 1980-1990, MENA actually experienced a negative average growth rate, falling at least 3.07 points behind East and South Asia. However, during this same period MENA surged ahead of Latin America and the Caribbean by 0.52 points and Sub-Saharan Africa by 1.06 points –two regions that also experienced negative average growth rates–. Consequently, as illustrated in Figure 1, the 1980-1990 decade witnessed the greatest standard deviation between the average percentage changes in GDP per capita among the sample regions.

Figure 1: Standard Deviation between Regional Growth Rates

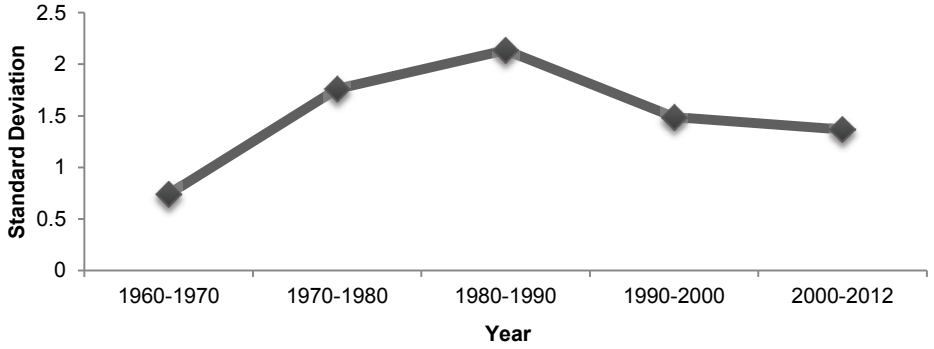

Figure 1 shows the standard deviation between the average percentage change in GDP per capita from 1960-2012 for the following five` regions: Middle East and North Africa, East Asia excluding the People's Republic of China, South Asia, Latin America and the Caribbean, and Sub-Saharan Africa. The standard deviation of the average GDP percentage change in growth rates is calculated using data from the World Bank Dataset.

From 1990-2000, MENA regained vitality and its average percentage change in GDP per capita increased by 1.62 points, trailing East and South Asia by only 0.54, nearly half of the previous discrepancy. Latin American and the Caribbean, and Sub Saharan Africa meanwhile approached MENA's average, trailing only by 0.30 points, an improvement of three and a half times compared to the previous decade. Then from 2000 to the present MENA fell behind Sub-Saharan Africa for the first time in the 52-year period surveyed. The MENA region also fell behind East and South Asia by 1.19 and 2.98 respectively. That being said, MENA remained ahead of Latin America and the Caribbean by 0.41 percentage points and is expected to experience a considerable increase in GDP per capita in 2013 (World Bank, 2012).

LITERATURE REVIEW

Malik and Awadallah (2011), in detailing the economics behind the Arab Spring, poignantly describe the Arab economies as being "greased through oil, aid, and remittances" (p. 27) in agreement with Pamuk's (2006) judgment that the MENA region cannot grow without first dealing with the negative effects of oil revenues on economic institutions and politics. However, Malik and Awadallah (2011) also argue that the debilitating combination of aid and oil has stifled MENA's economic and political incentives to take such preliminary action, creating a disadvantageous initial condition.

The study by Hoekman and Messerlin (2002) further substantiates that the initial conditions present in the MENA region have a significant impact on the economic growth of the region. According to their study,

integration based on merchandise trade liberalization that proved successful in Europe is inhibited in MENA by three unique initial conditions; one, the markets are small; two, the export concentration caused by a comparative advantage in natural resources would necessitate geographical diversification of exports beyond the region in order to sufficiently limit risk; and three, as indicated by Malik and Awadallah (2011), large Arab countries lack the incentive to pursue merchandise trade-based economic integration while smaller countries that have the incentive lack the leverage to act upon it.

Additionally, according to Makdisi, Fattah, and Lima's (2005) study, investment and initial level of income are the most influential determinants of MENA's economic growth, human capital contributes to the relative underperformance of the region —which Salehi-Isfahani's (2005) study on MENA's urban households validates—, and trade openness has a low impact on MENA's economic growth; this supports Yanikkaya's (2002) finding that trade barriers are significantly and positively associated with economic growth in developing countries. Makdisi, Fattah, and Lima (2005) further delineate that several factors, namely human and physical capital, the influence of the state, institutions, and external and internal shocks —for instance, Rzigui (2005) found that around 28.37% of the long run variability in Tunisia's real GDP is attributable to external shocks—merit a more extensive analysis than their research provides. In a later study, Nabli (2007) identifies human capital and physical infrastructure as the most significant determinants of economic growth for the region, followed by macroeconomic and external stability. Specifically, improvements in primary education, the road network, and the health conditions of the population contributed the most to the growth performance of the MENA region during the 1990's (Nabli, 2007). Taken as a whole, the GDP per capita annual growth rate in the MENA countries would have been 0.8 percent in the 1990's instead of 1.7 percent if human capital had not advanced during that decade; human capital's impact was even higher in Iran, Syria, and Algeria due to a wider initial gap in primary schooling (Nabli, 2007). Similarly, physical infrastructures' contribution to economic growth in the form of telephone lines was the highest in Iran and Syria out of a sample of forty-four developing countries in the Middle East and North Africa due to their low initial level of infrastructure (Nabli, 2007). Additionally, Nabli's (2007) analysis of structural reform on growth produced two seemingly contradictory findings. First, in an increasingly volatile environment, high levels of structural reform accentuated the effects of macroeconomic instability. Secondly, macroeconomic reform led to economic growth even in the absence of structural reforms. Consequently, the structural reform variable was only statistically significant as a multiplicative term and Nabli (2007) concluded that an economy needs to be stabilized before it can be reformed.

Malik and Awadallah (2011) identify the economic underpinnings of the Arab Spring as follows; poverty, unemployment, and a lack of economic opportunity. Furthermore, in addition to Nabli's (2007) findings about the need for stability, Malik and Awadallah (2011) write that structural reform in MENA is also a political problem. Whether the new governments in Tunisia, Egypt, Libya, and Yemen take advantage of their regions' potential sources of growth as identified in the literature, such as the benefits of macroeconomic stability, has yet to be seen. However, the data continue to indicate that the MENA region has the potential to grow substantially.

DATA AND EMPIRICAL ESTIMATION METHODOLOGY

In order to reassess the prominent determinants of MENA's economic growth, this study gathers yearly data on the initial conditions, human capital, investment ratio, macroeconomic performance, openness, and natural resource abundance. The variables are a reflection of the existing literature as referenced in the exposition of this study. Moreover, with the exception of human capital, all of the variables utilized in this study are obtained from the World Bank Dataset over the period of 1969-2010; data on human capital is obtained from the Barro-Lee Educational Attainment Dataset over the period 1970-2010. The sample consists of seven MENA countries: Algeria, Egypt, Jordan, Morocco, Saudi Arabia, Syria, and Tunisia. Unfortunately, the unavailability of data has prevented the inclusion of the remaining MENA countries in

the regression analysis, namely Bahrain, Djibouti, Iran, Iraq, Israel, Kuwait, Lebanon, Libya, Malta, Oman, Qatar, United Arab Emirates, West Bank and Gaza, and Yemen (World Bank, 2012).The following conventional economic growth model is used to investigate the effects of the factors listed above on the MENA region's growth performance:

$$GROWTH_{it} = \beta_0 + \beta_1 GDP69_i + \beta_2 HUMAN_{it} + B_3 INVEST_{it} + \beta_4 INFL_{it} + \beta_5 TRADE_{it} + \beta_6 FACTOR_{it} + \beta_7 FERTILITY_{it} + \beta_8 DUMMYOIL_{it} + \mu_{it} \quad (1)$$

Where GROWTH denotes the per capita real gross domestic product (GDP) growth rate; GDP69 is the initial level of real income (GDP) measured at the 1969 level as evidence of conditional convergence of growth rates over the period; HUMAN is human capital; INVEST denotes the investment ratio; INFL is the yearly averaged inflation rate as a macroeconomic performance indicator; TRADE is a ratio of trade (import +export) to GDP as a measure of trade openness; FACTOR is a ratio of total natural resources (sum of oil, natural gas, coal, mineral and forest) rents to GDP; FERTILITY denotes the life expectancy at birth; DUMMYOIL is a dummy variable taking a value of one if the country is a major oil producer and zero otherwise; the subscript i represents each country and t represents the period 1970-2011 evaluated on an annual basis.

The standard panel econometric technique is applied following the usual practice in the empirical growth literature estimate Equation 1. This study specifically utilizes "one-way fixed effect" panel data estimation method. The one-way fixed effects model takes into account any unobservable time effects which are individual-invariant but change over time. Moreover, the data used in this study has a longer time period (1970-2010), including a time-specific effect which accounts for any time-specific not included in the regression. Therefore, estimates of equation 1 are unbiased and consistent. Table 2 gives the descriptive statistics of the variables used in the empirical analysis.

Table 2: Descriptive Statistics of Variables

Variables	**Mean**	**Std**	**Min**	**Max**
Dependent Variable				
GROWTH	2.13	5.59	-17.37	23.63
Independent Variables				
GDP69	2,339.1	3,130.2	422.10	9,908.7
HUMAN	4.49	1.98	0.99	8.97
INVEST	24.09	6.16	8.91	48.58
INFL	7.70	7.56	-3.84	59.48
TRADE	1.00	0.41	0.10	3.00
FACTOR	15.52	16.74	0.01	95.08
FERTILITY	66.09	6.49	50.45	75.56
DUMMYOIL	0.14	0.35	0.00	1.00

Table 2 provides descriptive statistics for the dependent and independent variables used in the estimation. The average growth rates per capita real gross domestic product (GDP) of the seven countries used in the study is 2.13 percent.

Average years of total schooling is used as a proxy for the human capital, HUMAN in this study. The investment ratio to GDP, INVEST, denotes gross fixed capital formation (formerly gross domestic fixed investment) that includes land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings (The World Bank, 2012). Additionally, FACTOR serves as an indication of natural resource abundance.

The expected signs of HUMAN, INVEST, and DUMMYOIL are positive. As the number of years of schooling increases, so does workers' productivity as their knowledge base and innovation capabilities expand resulting in higher economic growth (Makdisi, Fattah, & Lima, 2005; Nabli, 2007). There is also evidence that education positively affects economic growth by lowering fertility and increasing the

productivity of private investment (Barro, 1991). In the same way, increased investment in physical capital (INVEST) causes higher levels of production which in turn augments economic growth (Levine & Renelt, 1992; Nabli, 2007). Moreover, DUMMYOIL is included to capture if the country is major oil producer because it is expected that MENA oil producers enjoy higher levels of economic growth because of rich oil endowments (Abderrezak, 2004).

The expected signs of GDP69, INFL, FERTILITY and FACTOR are negative. The initial level of real GDP (GDP69) determines the length of time each country needs to reach its own long-run economic growth. Moreover, aside from inherently affecting growth by raising interest rates and subsequently making investments more expensive, inflation (INF) is one of several factors that leaves the region more susceptible to external shocks (Makdisi, Fattah, & Lima, 2005). There is also evidence that lower mortality rates will lead to an increase in population size, swelling the workforce and straining a youth unemployment rate that is already one of the largest in the world (Cervellati & Sunde, 2011; Malik & Awadallah, 2011); for example, in Jordan the youth unemployment rate —the unemployed under thirty years of age— was 70% in December 2011. Therefore, it is expected that lower mortality rates or higher life expectancy translates into lower economic growth. However, the study by Cervellati and Sunde (2011) empirically found that higher life expectancy leads to faster economic growth; this study anticipates that the negative effects of FERTILITY will outweigh the positive effects because the youth unemployment rate is currently so unprecedented in the MENA region. Finally, although MENA countries use oil export revenues to invest in infrastructure, education, and health care (Nabli, 2007), we expect FACTOR to negatively impact GROWTH in accordance with Makdisi, Fattah, and Lima's 2005 findings. The negative impact has been partially attributed to the tendency of natural resource abundance to overvalue the national currency and hinder the growth of non-oil exports (Makdisi, Fattah, & Lima, 2005; Guetat, 2006).

The relationship between trade openness and economic growth has been extensively investigated by cross-country empirical studies. The majority of these studies find that trade openness has a strong and statistically significant positive effect on economic growth (Harrison, 1996; Lee et al., 2004, to name a few). However, this relationship is not always apparent, especially in the case of the MENA oil exporting countries that generally have high trade ratios associated with their level of oil abundance. What's more, oil abundance may be detrimental to the economic growth of the MENA region due to weaker intuitional quality if it encourages rent seeking and corruption (Sachs & Warner, 1995; Sala-i-Martin & Subramanian, 2003). In addition, countries that have high trade ratios simultaneously maintain highly restrictive trade policies (Makdisi, Fattah, & Lima, 2005). Therefore, for this study, TRADE as proxy for openness is expected to have a negative effect on economic growth, GROWTH. Table 3 summarizes the theoretical expected signs of the coefficients in Equation 1.

Table 3: Expected Signs of Coefficients

Coefficients	β_1	β_2	β_3	β_4	β_5	β_6	β_7	β_8
Expected Sign	**<0**	**>0**	**>0**	**<0**	**<0**	**<0**	**<0**	**>0**

Table 3 shows the expected signs of coefficients of variables, namely GDP69, HUMAN, INVEST, INFL, TRADE, FACTOR, FERTILITY, and DUMMYOIL, respectively.

EMPIRICAL ESTIMATION RESULTS

Equation 1 is estimated using Ordinary Least Square employing panel data from the seven MENA countries listed above for the period 1969-2010. The empirical estimation results are reported in Table 4. The null hypothesis of no fixed specific-time effect is rejected at 1% significance level.

Table 4: OLS Panel Regression Estimation Results

Variables	Coefficient Estimates	T-Statistics	Coefficient Estimates	T-Statistics
INTERCEPT	0.0687	0.87	0.0545	2.17***
GDP69	-0.00003	-2.58***	-0.00002	-2.43***
HUMAN	0.0034	0.37		
INVEST	0.0007	0.08		
INFL	0	0.11		
TRADE	-0.0153	-1.71*	-0.016	-1.85*
FACTOR	0.0003	0.79		
FERTELITY	-0.0007	-0.6		
DUMMYOIL	0.202	2.34***	0.1465	2.22***
Adjusted R^2	0.3		Adjusted R^2	0.3
No. of Obs.	287		No. of Obs.	287

Table 4 shows the regression estimates of the equation: $GROWTH_{it} = \beta_0 + \beta_1 GDP69_i + \beta_2 HUMAN_{it} + B_3 INVEST_{it} + \beta_4 INFL_{it} + \beta_5 TRADE_{it} + \beta_6 FACTOR_{it} + \beta_7 FERTILITY_{it} + \beta_8 DUMMYOIL_{it} + \mu_{it}$. *The second column of Table 4 tabulates the coefficient estimates of independent variables used in the regression estimation. The third and last columns in Table 4 present the t-statistics. *, **, *** represent significance at 10, 5, and 1 percent levels, respectively.*

As shown in Table 4, initial income (GDP69) is negative and significant at the 1 % significance level, suggesting conditional convergence of growth rates over the year. Both TRADE as proxy for trade openness and DUMMYOIL, dummy variable if the country is major oil producer, are statistically significant and their signs are consistent with the predictions of this paper.

Trade openness (TRADE) has a negative effect on economic growth in the MENA region but is statistically significant at the 10% level. A one percent point increase in the TRADE reduces growth 0.0153 percentage points. However, this is not surprising given that trade openness is measured as a ratio of trade (import + export) to GDP; MENA's entrenched ideology and economic structure relies heavily on fuel export rents, which Malik and Awadallah (2011) insightfully define as the region's "original sin" (p. 5). Because of this reliance on natural resource exports and subsequent restriction on imports, the innovation and production emphasis present in developed countries remains largely absent in the MENA region.

DUMMYOIL's positive effect on GROWTH and high level of statistical significance at the 1% level can be attributed to the way oil revenues are distributed in most MENA countries; they often provide for the improvement of welfare and help finance investment infrastructure and human capital (Makdisi, Fattah, & Lima, 2005). For instance, in January 2012 the World Bank issued a report revealing that Algeria used part of their rising oil and gas revenues to raise public-sector wages, support employment and housing, and to mitigate the pressure on living standards from escalating food and fuel prices. However, this extensive reliance on oil revenues has also been seen to negatively affect growth due to the volatility of oil prices. (Makdisi, Fattah, & Lima, 2005; Malik & Awadallah, 2011).

Several factors can account for the statistical insignificance of HUMAN, INVEST, and INFL, FACTOR, and FERTELITY, but perhaps the most important is that the MENA region is characterized by macroeconomic volatility and political instability (Neaime, 2005). Consequently, data is limited and not always reliable. What's more, specifically with regards to human capital (HUMAN), although educational attainment has increased exponentially across the MENA region during the last forty years, labor markets remain distorted in that jobs are awarded based on connection rather than competition (Malik &

Awadallah, 2011; Salehi-Isfahani, 2005). In other words, the region lacks a vibrant private sector that permits increased education to translate into increased productivity (Malik & Awadallah, 2011; Salehi-Isfahani, 2005). Therefore, while a higher quantity and quality of observations may render more variables statistically significant, the very nature of the MENA regions' economic structure could be the cause of the statistical insignificance.

Finally, this study tests whether the coefficients estimates of above panel-time effect OLS tabulated in the second column of Table 4 are sensitive to excluding insignificant variables. Column (4) of Table 4 reports the coefficient estimates with those insignificant variables excluded from the regression. The parameters estimates on initial income (GDP69), trade openness (TRADE) and DUMMYOIL, dummy variable if the country is major oil producer, are statistically significant and their signs are unchanged. Therefore, the earlier results are robust with respect to excluding any insignificant variable.

CONCLUSION

This study reassesses the determinants of economic growth in the Middle East and North Africa region during the period 1969-2010. Because of the unavailability of data, this study only includes seven MENA countries, namely Algeria, Egypt, Jordan, Morocco, Saudi Arabia, Syria, and Tunisia.

By utilizing a one-way (time-dummies) fixed panel estimation method, this study found that initial income (GDP69) and TRADE as proxy for trade openness have a negative impact on economic growth in the MENA region, while DUMMYOIL, dummy variable if the country is major oil producer, has a positive impact. Our remaining variables, HUMAN as a proxy for human capital, the investment ratio (INVEST), INFL as a macroeconomic performance indicator, FACTOR as a measure of natural resource abundance, and life expectancy at birth (FERTILITY) were statistically insignificant.

The MENA region has experienced a great deal of volatility over the past forty years, even witnessing negative growth rates between 1980 and 1990. More recently, continuing domestic disturbances indicate that the economic underpinnings of the Arab Spring have yet to be ameliorated (World Bank, 2012). Unemployment is at an all-time high, which has increased the high-risk aversion of international investors (Malik & Awadallah, 2011; World Bank, 2012). Finally, the uncertainty and vulnerability in the region is amplified by a languishing external environment (World Bank, 2012). This is hardly a recipe for economic success.

So what will springboard the MENA region into a period of sustained economic growth? While our study indicates that DUMMYOIL positively affects MENA's per capita real GDP growth rate, that very dependence on oil exports could also be the cause of TRADE's negative impact. Therefore, further research is required to answer this pressing question.

Specifically, political stability should be empirically assessed for the most recent decade using Guetat's (2006) proxy REVCOUP, in addition to an alternative proxy for trade openness. Even more imperative, however, is the need for reliable data from the remaining MENA countries. Finally, additional time is paramount to accurately measuring the impact of the Arab Spring on the determinants of MENA's economic growth and concluding once and for all whether a youth revolution was really the springboard MENA needed to achieve its economic potential.

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BIOGRAPHY

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