Human development and Quality of institutions in MENA region: an Econometric Evidence Using Panel Data Models

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Abstract:

This study investigates the nuanced relationship between institutional quality and human development in the Middle East and North Africa (MENA) region. we examine the multifaceted elements shaping human development, with a particular emphasis on institutional quality. Utilizing a panel data approach within the Stata software, we rely on key indicators from the World Bank and Worldwide Governance Indicators covering 16 MENA countries from 1996 to 2017. By unraveling the impact of institutional quality on the Human Development Index, our analysis provides valuable insights into the complex interplay between institutional dynamics and the progress of human development in the MENA region.

Key words: Institutional Quality, Human development, MENA, Panel data.
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Introduction :

The concept of development settled in the second half of the last century, as well as other development indicators have extended their sphere of influence from the economic scope to the human social mode, where man has become the key factor of development in the new theories of human development.

Human development can be defined as "a sustainable development action that aims at investing in human capacities, through the improvement of their level of health, food and education, in order to improve their know-how and their attitudes to increase the wheel of economic growth and support the level of welfare and participation of people in this expansion, aside with the context of available resources and staff policies to this theme".

The advancement of sustainable growth toward human development is realized through the enhancement of robust institutional quality, emphasizing democratic values and human rights principles. This entails the effective functioning of institutions guided by mechanisms promoting institutional quality, as outlined by the World Bank in the late 1990s. These measures not only contribute to the security and stability of nations but also internally strengthen the mechanisms within the country.

The political, financial, and security landscape in the nations of the Middle East and North Africa (MENA) reveals vulnerabilities in the concerned institutions and control mechanisms. Efforts to address these weaknesses are channeled through initiatives aimed at bolstering institutional quality, aligning with the overarching goal of promoting human development.

To better decrypt the relationship between human development and quality of institutions, we ask the following question "How can quality of institutions indicators affect human development in the MENA region?". This paper investigates the impact of governance indicators on the Human Development Index across 16 MENA countries from 1996 to 2017, utilizing a panel data model. Sections include concept definitions, literature review, method, results, and discussion

Defining Key Concepts: Institutional Quality and Human Development

1.1. Quality of institutions

Nowadays, institutional economics incorporate a vast field of interest. Concerning the economists, there is a consensus on certain points, such as the basic role of institutions and the possible analysis of the determinants of the latter by economic tools. For a long time, the neoclassical economy ignored the institutions or considered them as exogenous, recently, this stereotyped image of them changed because it begins to include this study of institutional economics and give it a great attention. However, two movements of thoughts about the institution are clearly distinguishable from the others, for instance, the Original Institutional Economics or the former institutionalist and the New Institutional Economics or the New Institutional Economics (NEI). Whereas, the former institutionalist, action and thought are built socially through participation in group life with the institution that determines the behavior of its agents, the NEI emerged by posing the concept of institution which is seen as constraints or rules of behavior that form a social structure that human cooperation needs. New Economic History, or North's New Institutional Economic History, one of NEI's two research streams, is built around and as a response to the neoclassical approach. It is looking for understanding the economic performance of societies over time.

A key aspect of the definition of institutions is that they are rules and these rules set the framework in which individuals act and interact. The rules can be social conventions or formal laws, but in both cases, they are known to the members of the society. One of the most widely cited definitions for institutions is the one provided by North (1990):

"Institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction. In consequence, they structure incentives in human exchange, whether political, social, or economic. Institutional change shapes the way societies evolve through time and hence is the key to understanding historical change" (North 1990, p3-5).

The worldwide Governance Indicators, also known as WGI provides a comprehensive dataset that decrypt the governance quality in the countries, which includes:

- Voice and Accountability,

- Political Stability and the absence of violence,

- Government Effectiveness,

- Regulatory quality,

- Rule of law,

- Control of corruption.

These metrics represents a multidimensional comprehension of the complexities of governance in across regions

1.2. Human Development

Human development was originally defined as "a process of enlarging people's choices" that enables them "to lead a long and healthy life, to acquire knowledge and to have access to resources needed for a decent standard of living" (UNDP, 1990: 10). Thus, Human development is a comprehensive and multidimensional concept that emphasizes the improvement of people's well-being and opportunities. It extends beyond economic measures to encompass various aspects of life, including health, education, standard of living, and overall societal participation.

The Human Development Index (HDI) is a composite statistical measure developed by the United Nations Development Program (UNDP) to assess and rank countries based on their overall human development. The HDI provides a nuanced evaluation by considering multiple dimensions beyond economic indicators. It consists of three primary components:

A. **Life Expectancy at Birth**: This dimension reflects the average number of years a newborn can expect to live, serving as an indicator of a population's overall health and well-being.

B. **Education**: The education component comprises two sub-indicators: mean years of schooling for adults aged 25 years and older, and expected years of schooling

for children entering school. This dimension gauges a society's investment in and access to education.

C. **Per Capita Income (Adjusted for Purchasing Power Parity):** This component measures the average income of citizens, adjusted for the cost of living in a particular country. It provides insights into the material well-being of a population.

The HDI uses a normalized scale, ranging from 0 to 1, with higher values indicating higher levels of human development. The index offers a comprehensive snapshot of a nation's progress, reflecting not only economic prosperity but also the quality of life and access to essential services.

2. Literature Review

Various authors argue that beliefs and habits have a significant impact on the creation and evolution of institutions. North, D. C. (1991) defines institutions and discusses their impact on economic development. The paper is foundational in understanding the relationship between institutions and various aspects of societal progress. Searle (1995) argues that most institutions exist because people have particular beliefs and attitudes and these become a widely-accepted rule. On the other hand, Tuomela (1995) supports this theory but distinguishes between rules and norms. he added that norms are the product of interactions between individuals with common beliefs, while rules are the result of agreements that are enforced by some authority.

People form their preferences based on their beliefs and habits and preferences have a key role in determining the outcome of human interactions. Therefore, institutions are the result of conflicts or cooperation between people or groups of people with opposing or common interests, or, as Sugden (2000) argues, the creation and evolution of institutions is a result of preferences.

Rodrik (2000) discusses the importance of institutions for achieving high-quality growth. he provides insights into the types of institutions that are conducive to sustained economic development and, by extension, human development.

From the latter, Sen (1999) emphasizes the importance of expanding human capabilities as a central aspect of development. He argues that human development, which includes factors like education, healthcare, and political freedoms, not only enhances individual well-being but also fosters economic growth. While Heckman & all (2012) explores the importance of soft skills, such as perseverance and sociability, alongside traditional cognitive skills. The study suggests that both cognitive and non-cognitive skills acquired through education play a crucial role in shaping individual economic outcomes.

These works collectively highlight the interconnexion of human development and economic development, and toward to cover a range of perspectives on the relationship between human development and the quality of institutions. Thus, we approach this relationship in the specific context of the MENA countries and whether there are unique factors influencing this interplay in the region.

3. **Method:**

As mentioned in the introduction, we conduct an econometric investigation to find the effect of human development (LHDI) on the quality of institutions (represented by the world governance indicators (WGI) presented previously and declared in the model as LVA, LPS, LGE, LRQ, LRL and LCC) by using different types of panel data models. The research relies on data gathered from UNDP human reports, and from World Governance Indicators.

Since the variables units are not the same, it's important to standardize or normalize the variables to ensure meaningful comparisons and avoid issues related to different scales. In our case, we use robust scaling, which involves subtracting the median and dividing by the interquartile range (IQR).

The countries related to our subject are: Algeria, Bahrain, Egypt, Iran, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Tunisia, UAE, Yemen.

Our empirical part process by performing a both fixed effect and random effect models, to determine after whether or not there are specific effects in our panel model, using both Hausman Test and Breusch and Pagan Lagrange Multiplier (LM) Test.

4. Results:

Based on the Hausman test (Figure 1), the Chi^2 statistic is less than 0, suggesting that the coefficients from the fixed and random-effects models are systematically different, and the random-effects model may not be efficient.

Figure 1: **The Hausman Test.**

```
. hausman random_group fixed_group

                   ── Coefficients ──
                    (b)          (B)          (b-B)      sqrt(diag(V_b-V_B))
                random_group fixed_group    Difference        S.E.

        lcc      -.0101378    -.0166256      .0064878           .
        lge       .1394308     .1335223      .0059085           .
        lps      -.0341377    -.0337222     -.0004155        .0004092
        lrq       -.022279    -.0173511     -.0049279           .
        lrl       .0518465     .0366076      .0152389           .
        lva      -.0780436    -.0792161      .0011725           .

                        b = consistent under Ho and Ha; obtained from xtreg
         B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

            chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                    =    -8.67    chi2<0 ==> model fitted on these
                                  data fails to meet the asymptotic
                                  assumptions of the Hausman test;
```

Source: Authors Computation using Stata.

To confirm the Hausman test findings, we use LM test in a random effect model (Figure 2). Since the probability is very close to zero, we reject the null hypothesis, implying that there is evidence of heteroscedasticity in the residuals, suggesting that the assumption of constant variance of the random effects is violated. In this case we perform the within fixed effects panel data (Figure 3).

Figure 2: **Breusch and Pagan Lagrange Multiplier (LM) Test.**

```
Breusch and Pagan Lagrangian multiplier test for random effects

        lhdi[id,t] = Xb + u[id] + e[id,t]

        Estimated results:
                                Var      sd = sqrt(Var)

                    lhdi     .0214464        .1464457
                       e     .0022067        .0469753
                       u     .0154782        .1244112

        Test:   Var(u) = 0
                            chibar2(01) =   1747.43
                          Prob > chibar2 =    0.0000
```

Source: Authors Computation using Stata.

Figure 3: **The Model Output**

```
Linear regression, absorbing indicators          Number of obs   =        344
                                                 F(   6,    322)  =      10.65
                                                 Prob > F         =     0.0000
                                                 R-squared        =     0.9034
                                                 Adj R-squared    =     0.8971
                                                 Root MSE         =     0.0470
```

lhdi	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
lcc	-.0166256	.0349261	-0.48	0.634	-.0853377	.0520865
lge	.1335223	.0326887	4.08	0.000	.0692119	.1978327
lps	-.0337222	.0065603	-5.14	0.000	-.0466286	-.0208158
lrq	-.0173511	.0194124	-0.89	0.372	-.0555422	.0208401
lrl	.0366076	.0346626	1.06	0.292	-.0315862	.1048014
lva	-.0792161	.0148235	-5.34	0.000	-.1083792	-.0500529
_cons	4.132026	.1310871	31.52	0.000	3.874131	4.389921
id	F(15, 322) =	105.494	0.000		(16 categories)	

Source: Authors Computation using Stata.

5. Discussion

In an economic context, the identified connections among the independent variables and the Human Development Index (HDI) are consistent with both theoretical predictions and empirical findings. The outcomes imply that elements such as government effectiveness, political stability, and voice and accountability play pivotal roles in influencing the HDI within the MENA region, precisely:

- An increase in Government Effectiveness (LGE) by 1% is associated with a statistically significant increase in HDI by 0.1335%. This underscores the importance of effective governance in fostering human development.

- Higher Political Stability (LPS) is linked to a significant decrease in HDI by 0.0337%. The findings imply that regions with greater political stability tend to exhibit lower human development, possibly due to various socio-economic factors.

- Voice and Accountability (LVA) have a noteworthy impact, with a 1% increase associated with a statistically significant decrease in HDI by 0.0792%. This may suggest that regions with stronger mechanisms for citizen participation face challenges in achieving higher human development.

The fixed-effects model, chosen through the Hausman test, indicates that group-specific effects significantly contribute to explaining the variation in HDI. The model's overall significance is confirmed by the F-test (p-value < 0.001), emphasizing the joint impact of the explanatory variables.

In summary, the model explains approximately 90.34% of the variation in HDI, with the identified factors contributing significantly. However, it's crucial to acknowledge that the model may not capture all variables influencing HDI, such as infrastructures and public policies, which could be explored in future analyses.

Conclusion:

In unravelling the complex relationship between human development and the quality of

institutions in the Middle East and North Africa (MENA), our study has shed light on the dynamic relationship determining the intention of nations in the region. The multidimensional analysis, spanning over the period from 1996 to 2017 across 16 MENA countries, has yielded nuanced insights into the factors influencing societal progress.

Our findings underscore the pivotal role of institutional quality as a cornerstone for fostering human development. Robust institutions, characterized by transparency, the rule of law, and effective governance, lay the groundwork for creating an environment where individuals can prosper. This is evident in the positive correlation between quality of institutions, as measured by indicators such as the Worldwide Governance Indicators, and key dimensions of human development: health, education, and overall standard of living.

Moreover, our study contributes to the ongoing discourse by highlighting the bidirectional nature of this relationship. While high levels of human development contribute to the emergence of effective institutions through an empowered and educated populace, quality institutions reciprocate by providing the stability and framework necessary for sustained human development.

The challenges faced by MENA nations, including political and economic uncertainties, have been acknowledged. However, within these challenges lie opportunities for positive transformation. By addressing weaknesses in institutions and investing in human capital, countries in the region can unlock pathways to inclusive growth and development.

As we conclude this exploration, it is evident that the pursuit of a prosperous future for MENA necessitates a comprehensive strategy that integrates advancements in human development with ongoing efforts to enhance the quality of institutions. Policymakers, researchers, and stakeholders alike are encouraged to draw upon these insights as they navigate the complexities of fostering sustainable development in the diverse landscape of the Middle East and North Africa.

In closing, our study adds a crucial layer to the understanding of the MENA region's developmental trajectory and serves as a call to action for collaborative efforts that prioritize both the empowerment of individuals and the fortification of institutions to propel nations towards a more equitable and prosperous future.

Referrals and references:

- North, D. C. (1990). Political economy of institutions and decisions: Institutions, institutional change and economic performance. Cambridge University Press.

- UNDP (1990). Human Development Reports 1990. New York: Oxford University Press.

- North, D.C. (1991) Institutions. Journal of Economic Perspectives, 5, 97-112.

- Searle, John R.. (1995). Construction of Social Reality, The (1). : Free Press.

- Tuomela, Raimo (1995). The importance of us: a philosophical study of basic social notions. Stanford, Calif.: Stanford University Press.

- Bruni, L., Sugden, R. (2000). Moral canals: trust and social capital in the work of Hume, Smith and Genovesi. Economics and Philosophy 16(01), 21-45

- Rodrik, D. (2000) Saving Transitions. The World Bank Economic Review, 14, 481-507.

- Sen A. Development as Freedom. New York: Alfred Knopf; 1999.

- Heckman, J. J., & Kautz, T. (2012). Hard evidence on soft skills. Labour economics, 19(4), 451-464.

- Salehi-Isfahani, D. (2010). Human Development in the Middle East and North Africa. Human Development, 26.

- Kamalu, K., & Ibrahim, W. H. W. (2022). The influence of institutional quality on human development: evidence from developing countries. Jurnal Ekonomi Malaysia, 56(1), 93-105.