MESUARE THE RELATIONSHIP BETWEEN HUMAN CAPITAL AND COMPETITIVENESS: AN ECONOMETRIC STUDY

Proposal for Ph.D. in Economics

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Abstract:
This study aims to examine the role of human capital (education, labor, and innovation) in enhancing sustainable competitiveness and economic growth in Egypt compared with many countries over period from 1990 to 2016. The study will be divided into Chapter I: Education, Labor, Innovation, Competitiveness, Economic Growth: a theoretical framework, Chapter II: Human capital and competitiveness in some successful international experiences, Chapter III: The Egyptian economy and the reality of sustainable competitiveness: an overview, Chapter IV: Education, Labor, Innovation and Competitiveness and Sustainable Development: the case of Egypt; Chapter V: Education, Employment, Innovation, Competitiveness and Economic Growth: An Empirical Study, and Finally, the policy implications.

JEL Classification: E24, I25, J08, J24, J64, O15, O31, O47.

Keywords: Economic Development, Sustainable Competitiveness, Human Capital, Education, Labor, Innovation.

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1. Introduction:

Nowadays, a country’s success is often measured by its competitiveness. So, interest in competitiveness has increased as a tool to achieve and sustain growth. Competitiveness for nations is considered a concept complex and multifaceted, this situation has led to strong debates among those interested in determining the competitiveness concept, measure and draw policies to strengthen national competitiveness. (KWON, DAE-BONG, 2009).

The World Economic Forum (WEF) defines competitiveness as ‘the set of institutions, policies, and factors that determine the level of productivity of a country’. Its Global Competitiveness Index (GCI) proceeds from this definition to develop a methodology and tools to benchmark and measure the competitiveness of a given country through 12 pillars of competitiveness. (The Global Competitiveness Report 2013–2014, P: P 3:9)

The global competitiveness index (GCI) presents human capital as one of the key drivers for national competitiveness. The GCI uses 18 different indicators (out of a total of 110), which are directly linked to human capital. For each of these indicators weights are allocated according to the level of development of the country (a total of 16.3% for economies at the factor driven stage, as Egypt).

2. Research Problem and Hypothesis:

The most factors affecting on the Egypt’s competitiveness index are the set factors associated human capital; for example, for the index of basic education and health Egypt ranked No. 94, and in higher education and training index ranked No. 109, and reach in the sub-indices of education as following: the quality of basic and higher education Egypt ranked No. 137 and 139 respectively of the total 144 countries listed in the index in the year 2012/2013; and in the efficiency of the labor market ranked No. 142, given the sub-indices listed under note the efficiency of the labor market situation deteriorating Egypt where ranked No. 132 of 144 countries in the year 2012/2013, in the brain drain which would result in insufficient supply of skilled, as well as the weakness of the female participation rate in the labor market where occupies ranked No. 139 of the total 144 countries; in addition to high rates of unemployment among youth (15-24 years) - especially university graduates and technical education-, reaching 13.1% in the first quarter of 2014, rising to reach this percentage among females 24.5% for the same period (Central Agency for Public Mobilization and Statistics, 2014, research of the workforce), and this all factors that climate investment and affect the level of competitiveness of the economy, productivity and weaken economic growth rates.( Reda, 2012, P. 17). With regard to technology readiness index Egypt ranked No. 91, and in the innovation took place 109 of the total 144 countries in 2012/2013, and in cooperation between universities and industry in research University-industry collaboration in R & D Egypt was ranked No. 128 of 144 countries.

This performance is difficult to accept in light all the evidence to confirm the centrality of human capital, especially in the areas of education, employment and innovation, and its role in strengthening the competitiveness and development, without which it cannot build an economic system is able to achieve the desired development.

Therefore, the study seeks to the extent of education, labor and innovation affect in raising the competitiveness and economic growth, relying on human capital indicators listed in the Global Competitiveness Index. It also seeks to clarify the degree of influence of each of education, labor, innovation and economic development, and education and labor on the other hand, and the innovation of the third hand of the labor market.

The main problem of the study is to answer the following key question:
What is the extent of effect education, labor and innovation on enhancing Egypt’s sustainable competitiveness?

The following sub-questions emerge from this main question:

- What is the human capital? What are its components? What are the relations between this components?
- What are the ways of measuring human capital? What are the policies of its development?
- What is competitiveness? What are the methods and indicators to be measured? And what are its dimensions?
- What is the relationship between human capital and the level of competitiveness and sustainable?
- What is the relationship between human capital and the level of global competitiveness and economic growth?
- What are the relationships between education and labor and innovation?
- How to benefit from international experiences in raising the level of competitiveness of the Egyptian economy and raise the rate of economic growth?

**Hypothesis:**

1. There is a positive relationship between competitiveness (education, labor and innovation) and economic growth in the countries under study.
2. The weakness of Egypt’s sustainable competitiveness because of many factors, where the key factor is insufficient and inefficiency of public expenditure on human development, in areas of education, employment, innovation.

**3. Importance of Study:**

3.1. **Theoretical aspects:**
- Examine the impact of investment on human capital (education, labor market, and innovation) on human development.
- Clarify the relationships between education and labor and innovation.
- Review of literatures interested in the efficiency of human capital, and analysis of studies that dealt with the role of the human capital in enhancing competitiveness.
- The study seeks to attempt to highlight the role played by education competitiveness, labor competitiveness and innovation in raise competitiveness and then promote economic growth.

3.2. **Applied and practical aspects:**
- Assessment of the Egyptian human capital in light of a number of criteria and indicators that can be used in determining the level of economic development.
- Trying to benefit from international experiences such as South Korea, and Malaysia's experience and so on, and developmental achievements in general; and the efficiency of the human capital particularly.
- Providing some proposals on the composition of strategies at all levels in order to improve the education system, efficiency of labor market, and innovation, and raising the competitiveness and economic growth.

**4. Objectives:**

The objectives of the study can be summarized as follows:
• Determine the concept of sustainable competitiveness, methods, indicators measured and its dimensions.
• Contributes to a more comprehensive analysis of the interrelations between human capital (education, labor and innovation) and competitiveness and economic growth.
• Clarify the relationship between the education, labor and innovation.
• Try study the degree of the impact efficiency of human capital on the competitiveness of the Egyptian economy.
• Benefit from the experiences of other countries through the development of a proposed framework of policies that raise the sustainable competitiveness of the Egyptian economy in the areas of education, labor market, and innovation.
• The study assessed the state of the educational system, as well as the Egyptian labor market, and innovation, as well as recent and ongoing reforms in these fields.

5. Data and Methodology:

Data Sources and Data Analysis:
• GCR reports for stage 1.
• IFS, IMF, and the World Development Indicators by The World Bank for stages 2 and 3.
• CAPMAS and the World Bank Development Indicators for stage 4.

For data analysis the EVIEWs software for panel data multiple regressions’ estimation is going to be used. FOR THE FOLLOWING STAGES:
1. In the stage 1 of analysis, the key question we want to investigate is how labor, education and innovation indicators affect Egypt’s competitiveness.
2. In Stage 2, the relationship between Growth in Real GDP and GCI is going to be investigated.
3. In Stage 3, the relationship between real GDP growth and the labor, innovation and education indicators that underlie the Global competitiveness Index is going to be analyzed. The purpose is to quantify the direct contributions of the pillars that determine the quality of human capital to real growth.
### 6. Research Structure:

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**Policy Implications**

**References**

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References:


2. ——, (2013), Brain Gain Initiative: Linking African and Arab Region universities to global knowledge, UNESCO.

3. ——, (2014), Developing an Education Sector Response to Early and Unintended Pregnancy, Conference Ready Version, UNESCO.


