

Examining the Trends of Educational Variables in the Past Affecting Egypt's Ability to Becoming Future-Proof in Facing Unemployment

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This study aims to investigate the relationship between some educational variables and unemployment in Egypt, thus determining the most important educational variables influencing the high rates of unemployment during the period (2002–2012). According to the data that were available from each source for the synthesis of time series, it could be sufficient to examine the trends in the past as a suitable retrieval case. By excluding any fluctuations such as epidemics or revolutions affecting the systems of government, the findings may be utilized in shaping the future by decision makers in Egypt in optimal manner. Thus, it can determine the priorities of the Egyptian government when dealing seriously in order to solve the unemployment problem appropriately, with regard to the reduction of unemployment rates in the near future. More importantly, the results have shown that the number of graduates of theoretical facilities has a significant impact on increasing the number of unemployed in Egypt, according to the target period by the current study.

Keywords: *education, unemployment, Higher Education Systems (HES), Egypt*

Introduction

Theoretical and empirical explanations of the relationship between the unemployment and educational systems have been studied widely by researchers in many countries. Further comparative studies to unemployment differ based on educational attainment, which was different from one country to another according to the circumstances of each state. However, among these studies, only a few incorporate the effect of educational status into the set of explanatory variables on the unemployment issue based on the in-depth statistical perspective, specifically in Egypt. As well as, ongoing International Labour Organization (ILO) research shows that after a number of years of improvement, youth unemployment is set to rise in 2016 and young people are disproportionately affected by working poverty. Although not set to rise this year, the youth unemployment rate in the Arab States will remain the highest globally, with persistently large gender gaps and high working poverty rates.¹

The present study is seeking to address this research gap by analyzing the role of the most important educational variables on unemployment. In particular, unemployment among Arab youth reached 25%. This statistic is according to the results of a survey of 3,000 young people from six Arab countries (the countries of

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¹<https://www.ilo.org>.

Gulf Cooperation Council: UAE, Oman, Saudi Arabia, Qatar, Bahrain, Kuwait) that was conducted by Booz Company Consulting. These findings were presented in Abu Dhabi at a media summit in 2013 that showed that many of the Arab youth do not trust the quality of education available, and subsequently its ability to solve the problem of unemployment (Al-Ittihad Newspaper 2013). Several previous studies report associations between education and the incidence and duration of unemployment. Some of them pointed out that each year of schooling, up to 12 years, reduces the expected duration of unemployment by over 4%, and that the acquisition of qualifications required at ordinary levels or above reduces the expected unemployment duration by 12% (Mincer 1991).

Concerning the educational status in Egypt, educational attainment is rising (1998–2002), i.e., primary enrollment rate has increased from 73%–96% for Egypt, and secondary enrollment rates have increased from 50% to 85%. Substantial progress has been made regarding gender disparities at both primary and preparatory levels, and there were even greater numbers of enrollment primary schools. Moreover, the total population in Egypt amounted to 57,434,884 inhabitants according to the most recent formal census in 2006 issued by the Central Agency for Public Mobilization and Statistics (CAPMAS 2013). The percentage of illiterates was reported at nearly 30% of the total population, while those who have university education or over constitutes only 9.6% of the total population. The remainders are those whose education ranges between intermediate or under-intermediate, or otherwise simply knowing to read and write. Consequently, the percentage of illiterates was the highest compared to other educational classifications, where the illiteracy rate among females was 37%, while 22% among males. On the contrary, the percentage of males that had tertiary education or higher was 11%, while that of females amounted to 7.8%.

As a result of the above, this current study focuses on the link between educational status and unemployment rates. In 2008 the World Bank announced that there was a need to reform the education system to meet the increasingly competitive markets, especially in connection with Egypt's growing youth population. Males' unemployment rate in Egypt was highest among technical secondary graduates in urban areas at the governorates during 1998–2006, whereas females' unemployment rate was highest among university graduates, who are the only group to have experienced an increase in unemployment during the same period. Hence, this paper is directed to an audience of global policymakers and those whom are interested and involved in studying the link between educational variables and unemployment issues. This study will address the aspects of the defect or imbalance with respect to those issues in Egypt as one of the developing countries that needs international cooperation and efforts of all relevant international organizational holders concerning these important issues.

Statement of the Problem

Developing the education system is crucial in addressing the unemployment problem and for developing plans and strategies target to this matter. However, this link is often ignored, especially in Egypt. As indicated by the World Bank in

2008 that the education levels of the burgeoning labour force in Arab Mediterranean Countries, including Egypt, were not suited to meet the growing labour demand, especially for workers with medium-level skills. Furthermore, the United Nations Economic and Social Commission for West Asia (ESCWA) in 2005 had pointed out that the rise in unemployment among Arab youth reflects the existence of problems associated with the management of educational outcomes that do not fit in with the actual needs of the labor market. As the Ministry of Manpower in Egypt declared in 2010, the education and training system was unable to give young people the skills required to be successful for the job market. This challenge is not solely a need to create jobs for those youth only, but how also to provide them with the best quality of educational opportunities.

Therefore, this study will attempt to review major trends of some educational variables available for the period of 2002–2012 by using the advanced statistical methods, e.g., number of graduates and drop-out rates of education, etc. In this context, it will put particular emphasis on determining the most important of these variables that have the highest influence on increasing the number of the unemployed in Egypt during this target period in this study.

Objective of the Study

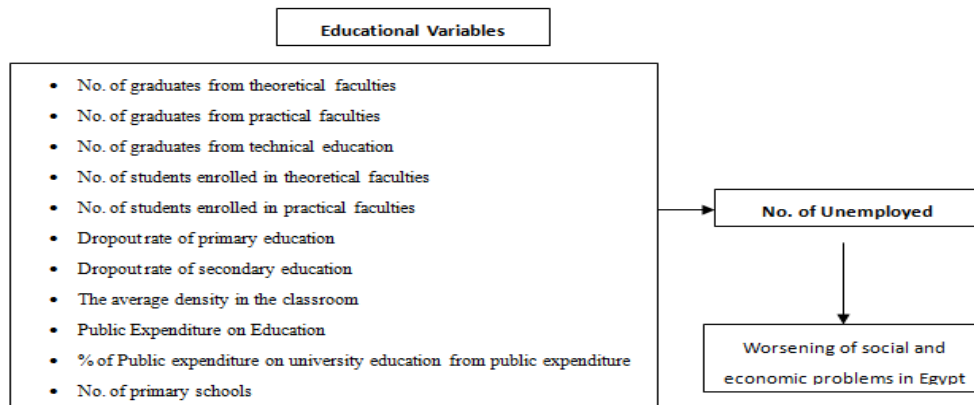
The main objective of the study is to identify which educational variables have the greatest effect of decreasing the unemployment rate for Arab youth in Egypt.

In order to address the stated objective, the following hypotheses were tested:

1. There was no relationship between educational factors and unemployment in Egypt.
2. The educational factors did not affect the unemployed in Egypt during 2002–2012.

The conceptual framework shows the proposed educational factors that are associated with unemployment. The study focused on the educational factors (number of graduates, number of students, drop-out rate) that were viewed as influential in increasing the number of unemployed in Egypt during 2002–2012. This, in turn, is one of the main factors affecting negatively on further exacerbating the social and economic problems in Egypt, as a direct result of the unemployment issue that is associated by the deteriorating the educational systems. This requires quick action towards the reform and development of education systems, especially higher education. The following rational relationship will reflect this link as follows (Figure 1).

Figure 1. Conceptual Framework Illustrating the Educational Factors Affecting the Unemployment Rate in Egypt



Literature Review

Previous research has shown that educational opportunities, or lack thereof, has substantial impacts on labour market outcomes such as earnings and employment, as well as non-market outcomes such as health, longevity, civic participation and criminal activity. One of these studies analyzed the effects of demographic and education changes on unemployment rates in Europe using a panel of European countries for the 1980–2000 period, and its results have shown that adult workers and more educated individuals, in general, experience lower unemployment rates (Biagi and Lucifora 2005). In addition, a strong relationship between unemployment and education has been found in a number of studies, pointing to the probability of unemployment is unequally distributed among various groups in societies with considerable differences depending on their educational status and number or array of qualifications (Wolbers 2000).

One study confirmed that a major benefit of education is the lower risk of unemployment at higher educational levels (Mincer 1991). There have been many studies that have studied the relationship between the education and unemployment; for example, one study analyzed the link between educational attainment and unemployment risk in a French-German comparison (Charlotte 2013). Another study investigated the relationship between education and long-term unemployment, and showed that an individual whom experiences long-term unemployment decreases with his educational level, and unemployment rates are negatively correlated with educational levels (Garrouste et al. 2010). Additional studies investigated the causal effects of education on individuals' transitions between employment and unemployment, and showed that education significantly increases re-employment rates of the unemployed (Riddell 2011).

But the matter was different for the relationship between education and unemployment in Egypt. For example, there was a study which pointed out that Egypt is facing a marked "youth bulge" and therefore has a high rate of youth unemployment, particularly among the highly educated (Murata 2014). In this study, we try to examine the negative role played by some educational variables

on increasing the unemployed in Egypt. However, many studies in developed countries have confirmed the positive role of the education in labour market adjustment to change, and that additional education improves the ability of the labour force to adjust to economic shocks.

In this context, it is noted that these previous studies have reflected the extent of the existence of an implicit reference to the role of educational variables in reducing the worsening problem of unemployment towards higher rates. This is considered as motivation for the current study to signal clearly to monitor the core role of education in Egypt for addressing unemployment. This issue is witnessing increasing demand through prospective students enrolling in various grades, in addition to increasing in the number of graduates with higher education. This has constituted a negative impact on the high rates of unemployment unless there is the availability of potential for investment in these human capacities well. Therefore, this study will shed light on the most important educational variables which may be used by the decision makers to include these variables within the policies and plans addressing of the unemployment at the national level.

Methods

This study will depend on descriptive and explanatory methods simultaneously to achieve its objectives, besides the quantitative approach. This study is a longitudinal study that depends on time series design which measurements of some variables are taken at different points in time, i.e. during the period 2002–2012, in particular the Central Agency for Public Mobilization and Statistics (CAPMAS 2013) through Egypt's Information Portal (2014). The period for this study is due to the official data in Egypt for this period which is available in a consistent and adequate shape. The total area of the Arab Republic of Egypt reaches nearly 1,010,000 km², while the populated area reaches 78,990 km², representing 7.8% of the total area,² which is located in the northeast corner of Africa and the southwest corner of Asia. Moreover, appropriate statistical methods will be used to realize the aims of the study, such as the percentages and frequencies. In addition, the use of the multi-regression analysis to determine the most important variables that has impact on increasing the number of unemployed in Egypt through the target period will also be used. The present study will reflect the relationships between unemployment and some educational variables by following the trends of unemployment across this period that are associated with these variables.

²Egypt State Information – SIS. <http://www.sis.gov.eg>.

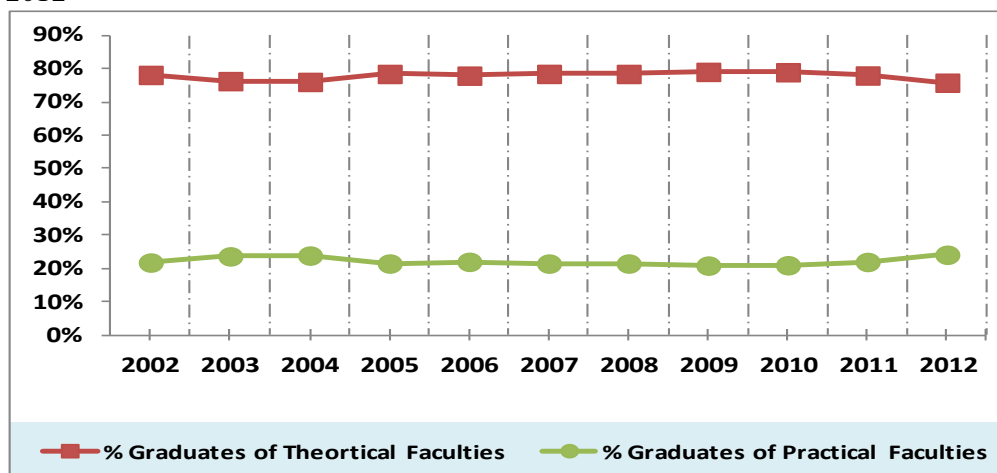
Results

In this context of the current study, the unemployment percentage and the general characteristics of some educational variables in Egypt will be reviewed during the period 2002–2012, according to the statistics that have been issued by the Central Bureau of Statistics and the general mobilization of the Arab Republic of Egypt, as be shown in Table 1. The results in Table 1 have shown the trends of unemployment rates in conjunction with reviewing the most important of educational indicators proposed that may be have an impact on the unemployment rate in Egypt during the target period. These results also remarkably show the presence of a rising unemployment rate in Egypt in 2012, compared to the others years, which stood at 12.7%. This is considered the highest unemployment rate that had occurred during the target period, and perhaps to many influences, one of the implications of the Egyptian Revolution on January 25 in 2011, leading to the deterioration of the economic and security situation in Egypt.

Table 1. *Some Educational Characteristics in Egypt during 2002–2012*

Variables	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Unemployment (%)	10.17	11.01	10.32	11.2	10.6	8.9	8.7	9.4	9	11.99	12.7
No. of Graduates	251,220	260,410	270,762	304,228	311,701	318,727	324,284	332,444	326,298	343,937	334,203
% Theoretical Faculties	78.2	76.3	76.1	78.5	78.0	78.5	78.5	79.1	79.0	78.0	75.8
% Practical Faculties	21.8	23.7	23.9	21.5	22.0	21.5	21.5	20.9	21.0	22.0	24.2
No. of University Students	1,552,622	1,623,685	1,761,376	1,874,752	1,869,848	1,862,734	1,912,132	1,942,518	1,649,986	1,627,339	1,767,699
% Theoretical Faculties	78.2	79.4	80.6	81.7	80.2	79.6	80.1	80.4	79.7	77.7	79.8
% Practical Faculties	21.8	20.6	19.4	18.3	19.8	20.4	19.9	19.6	20.3	22.3	20.2
No. of Students at Technical Education	2,149,408	2,214,152	2,199,480	2,090,008	1,981,162	1,793,609	1,361,629	1,252,431	1,260,793	1,607,125	1,628,168
% males	53.8	53.9	54.2	54.1	53.1	52.1	53.2	54	55.5	54.7	55.6
% females	46.2	46.1	45.8	45.9	46.9	47.9	46.8	46.0	44.5	45.3	44.4
Dropout in Primary (%)	0.87	0.84	0.9	0.49	1.23	1.23	0.7	0.39	0.16	0.39	0.34
Dropout in Preparatory (%)	3.13	3.02	3.54	3.33	2.9	2.06	6.5	6.42	5.44	5.11	6

The results showed that there was a large number of graduates from theoretical faculties in Egypt compared to their counterparts from practical faculties across all the years targeted by the current study. The number of graduates from theoretical faculties actually amounted to three times the number of practical faculties graduates. This fact will be reflected in Figure 2 with respect to the number of graduates from Egyptian universities, according to their specialties, whether theoretical or practical.

Figure 2. *The Percentage of Graduates from Universities in Egypt during 2002–2012*

As well as this case is identical also for the number of students currently enrolled in theoretical disciplines at Egyptian universities compared to the number of students enrolled in practical disciplines, their total amounted for about three times as well. This may constitute clearly one aspect of a defect in the application of education systems efficiently and effectively and trying to link them to the needs of the labor market that are escalating continuously. This result may be considered as a key factor in creating the inability to meet the requirements of the labor market of some practical disciplines, and the sufficiency of theoretical disciplines at the same time until reach the saturation degree. Thus, this contributes to the growing problem of unemployment in Egypt through the effort of shaping the future periods for the planning purpose of the current or next generations. Therefore, the need arises to create a balance between the disciplines that fill the needs of the labor market, and the number of graduates required for that matter. There is the necessity of providing students all the knowledge and modern skills that correspond to the international standards in these disciplines to increase the open employment opportunities, thus reinforcing the ability of these graduates for labor market competition both domestically and internationally.

While the results in Table 2 show the values of the Pearson correlation coefficient(s) between the number of unemployed in Egypt on the one hand, and between some educational variables that were proposed by the study on the other hand. It has shown that the highest significant correlation was between the number of graduates of theoretical faculties and the number of unemployed, which reflects a strong relationship in direct correlation between the two variables. There was evidence that they are influenced by each other, whereas the hypotheses of the current study suggest the existence of the effect of some educational variables on increasing the number of unemployed, i.e., like number of graduates from certain disciplines. Furthermore, there is an inverse association between the increasing the number of unemployed in Egypt, and decreasing both the number of graduates and students who have theoretical training, the level of public expenditure on education, and the number of graduates of technical schools.

Table 2. The Correlation Matrix between Number of Unemployed in Egypt, and Some Educational Variables Proposed in the Regression Analysis, According to the Period 2002–2012

Variables	No. of unemployed	No. of primary schools	Public expenditure on education	Average density in classroom	Dropout rate of secondary education	Dropout rate of primary education	No. of students enrolled in practical faculties
No. of graduates of practical faculties	-0.511	0.737**	0.698*	0.445	0.570	0.422	0.590
No. of graduates of theoretical faculties	0.726**	0.715**	0.737**	0.407	0.595	0.455	0.642*
No. of graduates of technical education	-0.260	0.798**	0.755**	0.136	0.721**	0.595	0.509
No. of students enrolled in theoretical faculties	0.163	0.302	0.157	0.636*	0.182	0.146	0.650*
No. of students enrolled in practical faculties	-0.105	0.507	0.529	0.730**	0.306	0.246	1
Dropout rate of primary education	0.518	0.604*	0.329	0.205	0.758**	1	
Dropout rate of secondary education	0.422	0.704*	0.624*	0.172	1		
Average density in classroom	0.308	0.298	0.295	1			
Public expenditure on education	-0.448	0.780**	1				
No. of primary schools	-0.620*	1					

(**) Significant at the lever less than 0.01. (*) Significant at the level less than 0.05.

This study used a regression analysis technique for determining which of these variables were included in the previous correlation matrix that have the highest impact on increasing number of the unemployed in Egypt during the target period. The results will be clear by Table 3. The findings of the regression analysis using the stepwise method revealed that the value of R-Square is equal to 0.654, meaning 65%, i.e., the ability or the proportion of these independent demographic variables to contribute in the interpretation of contrast and predict by the dependent variable (number of unemployed). This indicates that this model is fits to the target purpose for using regression relationship, and the test of variance analysis (ANOVA) has confirmed on the significance of this relationship, where the F value amounted to 7.462, which is significant at a level less than 0.05, and thus, this indicates a significant of regression relationship, i.e., there is a relation

existed between the dependent variable and the independent variable in the model. Accordingly, Table 3 lists the results of the regression analysis.

Table 3. *The Coefficients of Regression Model Equation Using Stepwise Method for Educational Variables Affecting the Number of Unemployed in Egypt, During the Period 2002–2012*

Variables	B	Std. Error	Beta	t	Sig.
(Constant)	-364572.5	996576.6		-0.366	0.724
No. of graduates of theoretical faculties	40.65	14.88	0.694	2.732	0.026*

(*) Significant at the level less than 0.05.

Source: Outputs of SPSS Program.

The data in Table 3 showed that increasing the number of graduates from theoretical faculties affects the standard unit amounted 0.694 on increasing the number of unemployed in Egypt, according to the target period by the study from 2002 to 2012. This variable only of the others variables proposed in the model has the greatest influence on the dependent variable, which reflects the necessity to reform or improve the higher education systems in Egypt to address this problem across the coming years.

Conclusion and Recommendation

This paper examines the relationship between educational variables and unemployment, and determines which of these variables has a significant probability to increase the unemployment in Egypt during the period 2002–2012. Considering the full data that are available from the CAPMAS during the target period, the results seem to confirm our initial hypothesis that the higher the educational level obtained, the higher the probability for falling into unemployment issue, especially in light of the failure of the higher education systems to meet the needs of the labor markets of scientific disciplines required. The results from the current study emphasized that rising graduates of theoretical faculties in Egypt contribute to the increased number of unemployed. Notably, the results indicated that graduates of theoretical faculties constitute the 75% of the total graduates in Egypt. This result contrasts with what referred by some modern studies for European countries.

The conclusions of many previous studies in developed countries concluded that the development of education systems can be a key factor in addressing the unemployment problem. Although educational attainment plays a significant role throughout reducing the unemployment rates, there is an increase in these rates among those whom have obtained a higher education in Egypt. This confirms the assumption that lacking graduates with the skills that meet the needs of modern labour market, due to the weakness of education systems and its possibilities, there will be a shortage of available resources as well. Moreover, the ability of these systems was lower to emulate modern universities' systems and the marketing for its graduates on a global level, and is still weak. This result is due to the monopoly

of many western institutions and the culture of quality and accreditation systems without any other.

Furthermore, this study urges the targeting of the other educational variables as determinants of long-term unemployment after breaking down the data by level of governorates and other classifications that will be important for decision-makers. Also, as an extension of the work presented in this study, we recommend more efforts in studying the impact of the educational status by comparing the unemployment rate among many countries that have the same conditions. We aim at exploring further background concerning the link between education reform and addressing unemployment in Egypt and Arabic countries compared to developed countries, and other educational aspects which may affect the motivation to exit unemployment, or improving its rates in Egypt especially.

This study encourages finding effective educational policy options by the officials within this field in Egypt whom can support the development of more attractive jobs in Egypt's private sector that will lead to the creation of jobs and overall inclusive growth. The findings of this study can contribute to building a foundation for designing youth employment policies in Egypt by higher education systems that are based on open rehabilitation centers and professional recruitment fairs. There is a demonstrated need to develop initiatives to attract different sectors and reviewing the jobs that are more distinctive for their graduates. These steps could significantly contribute to an increase in the rates of a private sector employment among new graduates and Egyptian job seekers, as well as the possibility to establish good relations between the graduates and the labor markets generally.

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Appendix

Chart 1. *The Number of Unemployed in Egypt and its Relation with the Percentage of Male Graduates from Theoretical Faculties from the Total Graduates during 2002–2012*

