

## ECONOMIC STUDY OF UNEMPLOYMENT IN EGYPT AND ITS IMPACT ON GDP

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**ABSTRACT:** *Unemployment has been and continues to be one of the most important challenges facing the various economic systems, where it results in negative impacts on the national economy. The volume of labor force in Egypt amounted to some 26.53 million persons in 2011, whereas the volume of national unemployment amounted to some 3.18 million persons representing 12% of the total labor force in 2011, while the volume of agricultural unemployment increased from 0.64 million in 2000 to 0.70 million in 2011, up by 9.38%. In 2011, the volume of agricultural unemployment represented about 32.12% of the average volume of national unemployment during the period (2000-2011). The current study revealed that, the volumes of national and agricultural unemployment have been growing at statistically significant annual amounts estimated at 54, and 5.6 thousand persons during the study period (2000-2011), respectively. However, the rate of unemployment in urban areas surpassed that in rural areas during 2011, indicating that the agricultural sector has the capacity to absorb more labor. The rate of unemployed persons holding middle-education degrees ranked on top of the total unemployed persons, both urban and rural areas, which can be attributed to the absent link between the level of education and the real needs of the labor market. The factors contributing to the rising volume of national unemployment include privatization, population number, and exchange rate, while higher consumption expenditure leads to reducing the volume of national unemployment. The factors that negatively impact on the volume of agriculture unemployment are agricultural investments and technology rate, while real wage rate had positive impact on the volume of agriculture unemployment. The factors that positively affect on the volume of GDP include the privatization, the agriculture investment, exchange rate, volume of national unemployment, as well as the average per capita share of GDP, while interest rate had negative impact on the volume of GDP. Therefore, the article recommends exerting efforts to redistribute investments in the field of agriculture, and lowering interest rates to promote investments, reduce the rates of agricultural unemployment, and boost the volume of GDP. In addition, the article recommends amending the implemented privatization policies, the application of which led to reducing both the national and agricultural unemployment rates in Egypt.*

**Key words:** *Unemployment - National unemployment - Agricultural unemployment - labor force – Unemployment Rates.*

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### INTRODUCTION

Job creation is one of the most important challenges facing Egypt today. Demography is part of the problem. Egypt's population growth is not particularly high by the peer group standards, but Egypt has a young population and a large number of young people are entering the job market each year searching for first jobs. Demand for labor is the other side of the problem. Economic performance has been uneven in the past decade, but even in periods of high growth, the job content of growth has not been strong enough to absorb the new

entrants to the labor market. Disparities related to education, training and skills between the jobs offered and the qualification of job seekers have also hampered employment, particularly among the youth. (M. Hassan, and C. Sanssanpour, 2008 (4)).

Unemployment is one of the most serious problems suffered by many social systems around the world, where it leads to negative consequences in the economic and social sphere. Therefore, governments strive to reduce unemployment rates and mitigate its impacts, where reduction of unemployment

rates became a test for the ability of the economic system to grow fast enough to provide job opportunities and reemploy the idle power in a short period. (Eman Mohamed, Ali Ismaeel, 2004 (1)).

During the period (2000-2011), the volume of labor force in Egypt increased from 18.9 in 2000 to 26.53 million persons in 2011, up by 40.36%. The volume of national unemployment increased from 1.698 million in 2000 to about 3.18 million in 2011, up by 87.5%, while the volume of agricultural unemployment increased from 0.64 million in 2000 to 0.70 million in 2011, up by 9.38%. In 2011, the volume of agricultural unemployment represented about 32.12% of the average volume of national unemployment during the period (2000-2011) (The Central Agency for Public Mobilization and Statistics ((CAPMAS, 2011 (8)).

## **PROBLEMS**

Since the early 1990s, Egypt has experienced rapid and substantial aggravation of the unemployment problem, and in particular the agriculture unemployment which represent about 32.12% of the average volume of national unemployment during the period (2000-2011). Despite consensus on the adverse economic, social and political implications of this problem, the present article starts from the premise that the real danger of agriculture unemployment lies in the fact that it reflects low and inefficient levels of GDP and growth.

## **OBJECTIVES**

The article aims to identify the causes of the increasing rate of agricultural unemployment during that period, as well as its impact on GDP. Moreover, propose some recommendations to mitigate the impacts of the increasing rate of agricultural unemployment in Egypt.

## **METHODOLOGY AND SOURCES OF DATA:**

In order to achieve the article objectives, the article relied on both quantitative and

descriptive statistics in explaining and describing the studied economic variables. The article applied simple and multiple linear regression models to estimate the parameters of economic relationships during the period (2000-2011). As regards the data, the article relied on secondary data, either published or unpublished, from the Central Agency for Public Mobilization and Statistics (CAPMAS,(8)), Food and Agriculture Organization of the United Nations (FAO, (10), Egyptian Information and Decision Support Centre.(EIDSC, (11)), Central Bank of Egypt. (CEB, (9)), Ministry of planning and international cooperation, Ministry of finance (12), in addition to some websites and economic studies relevant to the article subject.

## **RESULTS AND DISCUSSION**

### **I. The Concept of Unemployment:**

Unemployment is defined as the situation where the society does not fully or optimally utilize its labor force. Classical and Keynesian thinkers classified unemployment into several types. According to classical thinkers, there are two types of unemployment; these are voluntary and involuntary unemployment. Voluntary unemployment is the situation where individuals are able to work but are not willing to work at the prevailing wage rates. Contrary to that, involuntary unemployment is the situation where individuals are willing and able to work at the prevailing wage rates, but does not find work (Nagwa, 2010, (7)). Classical thinkers believe that if the labor market is liberalized the flexibility of wages and prices guarantees reaching full employment at equilibrium, and in case unemployment occurs, it shall be voluntary (Lamrebcem, 2005 (3)).

Keynesian thinkers argue that the key determinant of employment level is not the real wage, but the level of effective demand for labor, and that unemployment occurs due to inadequate national income, which should be increased in order to increase effective demand until sufficient to reach full employment. Keynesian thinkers classified unemployment into four types; the first is frictional unemployment, which involves

people being temporarily between jobs, searching for new better ones. The second is structural unemployment, which occurs as a result of dynamic changes in the structure of the economy, which results in a mismatch between the skills of workers looking for jobs and the vacancies available, either due to technological changes or capital intensity. The third is cyclical unemployment, which occurs as a result of economic cycles that lead to falls in aggregate demand or aggregate expenditure thus lower employment opportunities. The fourth and last is hidden unemployment, which describes the case where individuals are already employed but do not add to the GDP, usually spread in developing countries with dense population, especially where Agriculture is the predominant sector, (Mona El-Tahawe, 2009(6)).

## **II. Unemployment in Egypt**

Egypt's economy suffers from four key structural imbalances. The first is the imbalance between production and consumption; the second is the imbalance between exports and imports; the third is the imbalance between saving and investment, and the fourth is the imbalance between state revenues and expenditures, which is the main cause of the problems experienced by the Egyptian economy, the most serious of which is unemployment, (Mohamed Mosa Othman, 2009 (5)).

Characterization and Analysis of National and Agricultural Unemployment The problem of unemployment is represented in the waste of available resources, which prevents achieving sustainable growth in GDP as a result of continued consumption without adding to production. In addition, the volume and type of unemployment affects both the economic environment and the social structure. (Landmann,(2004-2005)(2)) The following article examines unemployment in Egypt from different aspects:

### **1. Volume of National and Agricultural Unemployment:**

Table (1) shows the volume of unemployment in Egypt during the period

(2000-2011) revealed that the volume of national unemployment reached about 3.183 million persons in year 2011 representing about 0.12 of the labor force, and that unemployment rate reached a minimum of 8.98% in years 2000 and a maximum of 12% in 2011.

Table (2) shows the trend of evolution in the volume of national unemployment during the study period, represented by equation (1), indicates that the volume of unemployment followed a statistically significant annual rate of increase estimated at about 54 thousand persons, equivalent to a growth rate of 2.42% of the average number of unemployed persons, estimated at 2.23 million during the period (2000 - 2011). As revealed in table (1), in 2011, the volume of agricultural unemployment reached around 0.7 million persons representing 21.99% of the volume of national unemployment for the same year. Moreover, the volume of agricultural unemployment reached a minimum of 0.64 million representing 37.69% of the volume of national unemployment in 2000, and a maximum of 0.78 million representing 36.2% of the national unemployment in 2004.

Table (2) shows the general trend of the evolution in the volume of agricultural unemployment during the study period (2000 - 2011), represented by equation (2), indicates that the volume of unemployment followed a statistically significant annual rate of increase estimated at about 5.6 thousand persons, equivalent to a growth rate of 0.803% of the average number of agricultural unemployed persons during the period.

### **2. Labor Force and Unemployment by Gender**

Table (3) shows the percent males surpassed that of females in terms of the labor force all over the study period, where it a maximum of about 78.7% in 2001 and a minimum of about 76.1% in 2004 while females reached a maximum of about 23.9% in 2004 and a minimum of about 21.3% in year 2001.

**Table (1): Labor Force, Unemployment Rates and the Volume of National and Agricultural Unemployment in Egypt during the period (2000-2011)**

Year	Labor Force (million)	Unemployment Rate (%)	National Unemployment (million)	Agric Unemployment (million)	Rate of Agric to National Unemployment %
2000	18.90	8.98	1.698	0.64	37.69
2001	19.34	9.22	1.783	0.65	36.45
2002	19.88	10.17	2.021	0.67	33.15
2003	20.36	11.01	2.241	0.69	30.79
2004	20.87	10.32	2.154	0.78	36.21
2005	22.10	11.24	2.45	0.69	28.16
2006	23.21	10.64	2.434	0.71	29.17
2007	24.25	8.95	2.135	0.73	34.19
2008	24.65	8.67	2.136	0.73	34.18
2009	25.35	8.46	2.144	0.72	33.58
2010	26.18	9.08	2.378	0.71	29.86
2011	26.53	12	3.183	0.7	21.99
Average	22.63	9.89	2.23	0.70	32.12

Source: Website of the Central Agency for Public Mobilization and Statistics (CAPMAS),2011.

**Table (2): General Trend Equations for National and Agricultural Unemployment in Egypt for the Period 2000-2011**

Equation No.	Variable Equation	Equation	R2	F	Growth Rate
1	National Unemployment	$\hat{Y}_t = 1.84 + 0.054 X_t$ (3.974)**	0.612	15.789	2.42
2	Agriculture Unemployment	$\hat{Y}_t = 0.605 + 0.0311 X_{1t} - 0.00196X_{2t}$ (3.226)** (-2.712)**	0.61	6.9	0.803

Source: Calculated From Table (1)

Where:

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Y= Estimated value of the dependent variable Y in year t

Xt = Time variable (1, 2, 3, .....,12)

The figure between brackets is the calculated t value

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**Table (3): Evolution of Unemployment Rate and Contribution to Labor Force by Gender for the Period 2000-2010**

Year	Contribution to Labor Force (%)		Unemployment Rate (%)	
	Male	Female	Male	Female
2000	77.78	22.22	5.06	22.73
2001	78.66	21.34	5.6	22.57
2002	78.15	21.85	6.33	23.89
2003	77.79	22.21	7.49	23.31
2004	76.08	23.92	5.94	24.26
2005	77.03	22.97	7.12	25.09
2006	77.66	22.34	6.68	23.94
2007	76.14	23.86	5.82	18.41
2008	77.56	22.44	5.64	19.27
2009	76.56	23.44	5.22	22.97
2010	76.93	23.07	4.90	22.57
2011	77.03	22.97	8.87	22.73
Average	77.28	22.72	6.22	22.65

**Source:** Website of the Central Agency for Public Mobilization and Statistics (CAPMAS), 2011.

The same table also shows the percent of unemployment, it is relative to the labor force for males and females. It is clear that, female unemployment rates surpassed that for males along the study period, and that unemployment rate for males reached a maximum of about 7.49% in 2003, while that for females reached a maximum of about 25.09% in 2005.

### **3. Geographical Distribution of the Unemployed**

Table (4) shows the total number of unemployed persons at the country level increased from 1.698 million in 2000 to 2.449 million in 2005, up by 44.24%, and then dropped to 2.35 million in 2010, representing about 38.41% of volume of unemployment in 2000. The table also shows that in 2000, unemployment in urban and rural areas reached 46.4% and 53.6%, while reached 40.7% and 59.3% in the two areas in 2010, respectively.

It is also clear from the table that the percent of unemployed males in urban areas increased during 2005 and decrease in 2010 compared to 2000. Nevertheless, it was

lower than the percent of unemployed males in rural areas in years 2000 and 2010, while it was high in year 2005. As regards females, the percent of unemployment in rural areas was higher compared to urban areas in years 2000 and 2010, respectively, which might be attributed to the reluctance of rural females to work, the lack of employment opportunities suitable for them, or to the tendency of rural females to achieve higher education levels.

### **4. Age Structure of the Unemployed**

Table (5) shows the relative importance of unemployed persons according to age groups at country level and at level of urban and rural areas during the years 2000, 2005 and 2011. It is revealed that, the age group (20-24) ranked first in terms of unemployment at the country level during the years 2000, 2005 and 2010, where it reached 43%, 47.7% and 46.9% for three years, respectively. Moreover, the percent of unemployed persons in urban areas surpassed that in rural areas for this age group. The age group (25-29) ranked second, where the number of unemployed

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persons belonging to this group accounted for 25.8%, and 24.4 % at the country level during the years 2000 and 2010, while ranked third in 2005 by recording 20.5% at the country level. Moreover, unemployed persons belonging to this group in rural areas was higher compared to urban areas, where they accounted for 37.8% compared with 23.2% in the two areas, respectively. As for the age group (15-19), it ranked second in terms of unemployment at the country level in 2005, where it reached 24.2%, while ranked third during the years 2000 and 2010, where the number of unemployed persons belonging to this group accounted for 21.4% and 15.4% during the two years, respectively.

The same table indicated that, the total number of unemployed persons belonging to the age group (30-39) ranked fourth, where they accounted for 9.2% in 2000, 6.8% in 2005, and 10.7% in 2010. It is also clear that the number of unemployed persons in this age group is higher in urban than in rural areas during the three comparison years. The age groups (40-49) and (50-59) ranked fifth and sixth, respectively.

It is clear that the highest rates of unemployment in urban or rural areas are concentrated in the young and middle-age groups, either males or females, which together with other rates of unemployment kinds represent the surplus added to job market year-over-year.

**Table (4): Number and Percent of Unemployed Persons in Urban and Rural Areas by Gender during 2000, 2005, and 2010, (100 persons).**

year	Urban Area,						Rural Area,						Total Country
	Male	%	Female	%	Total	%	Male	%	Female	%	Total	%	
2000	3396	43.1	4486	56.9	7882	46.4	4040	44.4	5061	55.6	9101	53.6	16983
2005	6334	51.7	5911	48.3	12245	50	5610	45.8	6642	54.2	12252	50.0	24497
2010	3607	37.7	5963	62.3	9570	40.7	6265	45.0	7672	55.0	13937	59.3	23507

Source: Website of the Central Agency for Public Mobilization and Statistics (CAPMAS), 2011.

**Table (5): Relative Importance of the Unemployed by Age Group (15-60) During 2000, 2005 and 2010**

Age Group	2000			2005			2010		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
15-19	16.6	25.5	21.4	18.4	29.9	24.2	16.6	9.2	12.2
20-24	43.5	42.8	43	49.2	46.3	47.7	51.3	43.9	46.9
25-29	29.2	22.9	25.8	23.2	37.8	20.5	21.4	26.4	24.4
30-39	10.1	8.4	9.2	8.1	5.5	6.8	7.5	13.0	10.7
40-49	0.4	0.3	0.4	0.9	0.4	0.7	2.8	6.2	4.8
50-59	0.3	0.1	0.2	0.2	0.1	0.1	0.4	1.3	0.9
Total	100	100	100	100	100	100	100.0	100.0	100.0

Source: Website of the Central Agency for Public Mobilization and Statistics (CAPMAS), 2011.

## **5. Relative Distribution of the Unemployed According To Educational Status.**

Table (6) shows the volume of unemployed persons holding medium-level degrees ranked first at the level of urban and rural areas, where they accounted for about 56%, 51% in years 2000 and 2005, while second ranked for about 36.6% in year 2010, for urban areas, and accounted for 76.2%, 72.6% and 55.8% in rural areas during the years 2000, 2005 and 2010, respectively.

Holders of university and postgraduate degrees ranked second in terms of the percent contribution to the total volume of unemployed persons at the level of urban and rural areas during the period time 2000 to 2005, where they accounted for 30.2%, 34.10% in years 2000 and 2005, while ranked first for 45.4% in year 2010 for urban areas, while accounted for 15.7%, 19.5% and 31.3% in rural areas during the years 2000, 2005 and 2010, respectively. Holders of middle high degrees ranked third, where they accounted for 10.4%, 7.8% and 9.3% in urban areas, while accounted for 6%, 5.2% and 7.3% in rural areas during the same years, respectively.

The total number of persons holding below medium level degrees ranked fourth at the level of urban and rural areas, which indicates an imbalance in the educational ladder that rises in middle, middle-high, university and postgraduate education since it mismatches the needs of the labor market either in terms of proficiency and required skills, or the quality of education and whether it is technical, theoretical, or academic, all of which can be attributed to the missing link between education and the real needs of the labor market according to the concepts and criteria of labor force planning.

## **6. Impact of Some Economic Variables on National Unemployment**

The study measured the impact of some economic variables on national unemployment in Egypt during the period (2000-2010) using the multiple regression analysis that are expected to be an economic impact between national unemployment millions as the dependent variable ( $Y$ ) and each of the explanatory variables such as the privatization millions L.E. ( $X_1$ ), the population Number millions ( $X_2$ ), the consumption expenditure millions ( $X_3$ ), the interest rate ( $X_4$ ), the exchange rate ( $X_5$ ), the inflation rate ( $X_6$ ). The function was estimated using various mathematical models, according to the logic of the economic and the results of different statistical tests, and found an advantage of dual-image algorithm to express the relationship between the national unemployment and the most important variables affecting the national unemployment, the picture was taken as illustrated in Table (7), the positive relationship between national unemployment and each of the privatization ( $X_{1t}$ ), the population Number ( $X_{2t}$ ), and the Exchange Rate ( $X_{5t}$ ) all of the three relations proved to be statistically significant. Moreover, the negative relationship between national unemployment and consumption expenditure ( $X_{3t}$ ) are proved to be statistically significant. The equation shows that about 98.9% of the changes in the volume of national unemployment in Egypt is attributed due to the change in the variables mentioned above.

Results of the analysis showed that the signs of the estimated parameters are consistent with the logic of economic theory, where growths in privatization, population, and exchange rate programs led to growth in the volume of national unemployment, while higher consumption expenditure leads to reducing the volume of national unemployment, which conforms to thought of the modern American Economist Fredman (3). Statistical tests proved that all of the estimated parameters are significant and consistent with the logic of economic theory.

**Table (6): Relative Importance of the Unemployed by Educational State during 2000, 2005, and 2010**

	2000			2005			2010		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Illiterate	0.9	0.8	0.8	2	0.9	1.4	3.1	1.4	2.4
Read&Write	1.3	0.6	0.9	1.7	0.6	1.2	1.4	1.0	1.3
Below Middle Education Degree	1.2	0.7	0.9	3.4	1.2	2.3	3.7	3.2	3.5
Middle Education Degree	56	76.2	66.8	51	72.6	61.8	36.6	55.8	44.4
High-Middle Degree	10.4	6	8.1	7.8	5.2	6.5	9.8	7.3	8.8
University& Postgraduate Degree	30.2	15.7	22.5	34.1	19.5	26.8	45.4	31.3	39.7
Total	100	100	100	100	100	100	100.0	100.0	100.0

Source: Website of the Central Agency for Public Mobilization and Statistics (CAPMAS), 2011.

**Table (7): Impact of Some Variables on National Unemployment during the Period 2000-2011.**

Dependent Variable	Explanatory Variable(s)	Equation	R2	F
National Unemployment	Privatization (LogX1t), Population Number(LogX2t), Consumption Expenditure (LogX3t), Exchange Rate (LogX5t)	$\text{Log}\hat{Y}_t = 14.94 + 0.013 \text{Log}X_{1t} + 5.216 \text{Log}X_{2t} - 0.524 \text{Log}X_{3t} + 0.131 \text{Log}X_{5t}$ <p style="text-align: center;"> <small>(3.11)*</small>      <small>(14.37)**</small>  <small>(-9.24)**</small>      <small>(3.19)*</small> </p>	0.989	259.27

Where: t  
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Log Y<sub>t</sub> = Estimated value of the dependent variable in year t

Log X<sub>t</sub> = Explanatory variable in year t

The figure between brackets is the calculated t value.

## 7. Impact of Some Economic Variables on Agriculture Unemployment

The study measured the impact of some economic variables on agricultural unemployment in Egypt (Table, 8) during the period (2000-2010) using the multiple regression analysis between the volume of agricultural labor and some of the variables believed to have an impact on. Applying multiple regression analysis between the volume of agriculture unemployment millions (Y) as the dependent variable and some of the explanatory variables such as the consumption expenditure millions (X<sub>3t</sub>), the technology rate (X<sub>7t</sub>), the real wage rate per agricultural worker (X<sub>8t</sub>), the agricultural

investments (X<sub>9t</sub>), the agricultural domestic product millions L.E. (X<sub>10t</sub>).

Results of applying multiple regression analysis revealed statistically significant positive relationship between the volume of agricultural unemployment as the dependent variable and the real wage rate, where increasing the real wage rate per agricultural worker (X<sub>8t</sub>), leads to increasing the volume of unemployment, which conforms to the logic of economic theory. In addition to that, it is revealed that, the negative relationship between the volume of agriculture unemployment and each of the technology rate (X<sub>7t</sub>) and the agricultural investments (X<sub>9t</sub>), all of the two relations proved to be statistically significant, where increasing agricultural investment allows the use of



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modern machinery, which result in creating a new jobs, then the increasing the number of workers and then reducing the volume of agriculture unemployment, The equation shows that about 95% of the changes in the volume of agriculture unemployment in Egypt is attributed due to the change in the variables mentioned above.

### 8. Impact of Unemployment on the Rate of GDP

Needless to say, domestic and global economic changes experienced by the Egyptian economy during the past years have directly influenced the interaction of all the economic variables and their impact on economic growth, including the volume of unemployment (Lawrence M, Kahan (2005, (5)) To measure the impact between the volume of GDP as dependent variable and each of the privatization ( $X_{1t}$ ), the interest rate ( $X_{4t}$ ), the exchange rate ( $X_{5t}$ ), agricultural investments ( $X_{9t}$ ), average per capita GDP ( $X_{11t}$ ), and the national unemployment ( $X_{12t}$ ), as independent

variables. The function was estimated using various mathematical models, according to the logic of the economic and the results of different statistical tests, and found an advantage of dual-image algorithm to express the relationship between the volume of GDP and the most important variables affecting the volume of GDP, the picture was taken as illustrated in Table (9), revealed a statistically significant positive relationship between the volume of GDP and each of the privatization ( $X_{1t}$ ), the exchange rate ( $X_{5t}$ ), agricultural investments ( $X_{9t}$ ), average per capita GDP ( $X_{11t}$ ), and the national unemployment ( $X_{12t}$ ), all of the five relations proved to be statistically significant. Moreover, the negative relationship between the volume of GDP as dependent variable and interest rate ( $X_{4t}$ ) is proved to be statistically significant. The equation shows that about 99% of the changes in the volume of GDP in Egypt is attributed due to the change in the variables mentioned above, as independent variable.

**Table (8): Impact of Some Variables on Agric Unemployment during the Period 2000-2011.**

Dependent Variable	Explanatory Variable(s)	Equation	R <sup>2</sup>	F
Agricultural Unemployment $\text{Log } \hat{Y}_t$	Technology (Log $X_{7t}$ ), Real Wage Rate (Log $X_{8t}$ ), Agri. Inv. (Log $X_{9t}$ )	$\text{Log } \hat{Y}_t = 4.3 - 1.62\text{Log}X_{7t} + 5.363\text{Log}X_{8t} - 0.299\text{Log}X_{9t}$ (-3.52)* (6.677)** (-3.016)*	0.95	20.04

Where:  $\hat{Y}_t$

$\text{Log } \hat{Y}_t$  = Estimated value of the dependent variable in year t

$\text{Log } X_t$  = Explanatory variable in year t

The figure between brackets is the calculated t value.

**Table (9): Impact of Some Variables on GDP during the Period 2000-2011.**

Dependent Variable	Explanatory Variable(s)	Equation	R2	F
GDP	Privatization (Log $X_{1t}$ ), Interest Rate (Log $X_{4t}$ ), Exchange Rate (Log $X_{5t}$ ), Agriculture Investment (Log $X_{9t}$ ), Average Per Capita Share of GDP (Log $X_{11t}$ ), Unemployment (Log $X_{12t}$ )	$\text{Log } \hat{Y}_t = 5.9 + 0.011 \text{Log}X_{1t} - 0.253 \text{Log}X_{4t} + 0.228 \text{Log}X_{5t} + 0.455 \text{Log}X_{9t} + 1.23 \text{Log}X_{11t} + 0.375 \text{Log}X_{12t}$ (5.911)** (3.126)* (-3.578)* (4.535)* (5.644)** (36.57)** (4.7)**	0.999	1261.6

Where:  $\hat{Y}_t$

$\text{Log } \hat{Y}_t$  = Estimated value of the dependent variable in year t

$\text{Log } X_t$  = Explanatory variable in year t

The figure between brackets is the calculated t value.

To conclude with, the foregoing discussion revealed that, the main causes that led to increasing the volume of national and agricultural unemployment in Egypt during the study period (2000-2011) include privatization, implemented by GOE as of 1996 to reform the economic path and protect public money against accumulated losses, and to mitigate the debt burden on public sector companies. Privatization measures involved employment restructuring, which resulted in laying off some workers. The increase in population thus the number of persons searching for work, and the limited employment opportunities further complicated the situation and led to higher rate of unemployment. Agricultural investments and technology rate proved to be of the major factors affecting the volume of unemployment. In addition, higher exchange rate leads to higher national unemployment, while consumption expenditure leads to reductions in national unemployment, which were approved by the current article.

As for GDP, findings revealed that the most important factors that positively affect the volume of GDP include the privatization, the agriculture investment, exchange rate, volume of national unemployment, as well as the average per capita share of GDP, while interest rate had negative impact on the volume of GDP.

Therefore, the current article recommended exerting efforts to redistribute investments in the field of agriculture, and decrease interest rates to promote investments, reduce the rates of agricultural unemployment, and boost the volume of GDP. In addition, the article recommended amending the implemented privatization policies, the application of which led to raising both the national and agricultural unemployment rates in Egypt.

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### Appendix

**Table (1): National Unemployment, Privatization, Population, Interest Rate, Exchange Rate, Inflation Rate and Consumption Expenditure in Egypt through the period (2000-2011).**

Year	National Unemployment (million)	privatization (million)	Population Number (million)	Interest Rate (%)	Exchange Rate (%)	Inflation Rate (%)	Cons. Expenditure (million)
2000	1.698	3021	65.95	10	3.48	2.8	303350
2001	1.783	3242	67.25	10	3.98	2.5	318900
2002	2.021	400	68.55	9.9	4.52	2.7	342500
2003	2.241	2384	69.85	9.8	5.97	3.2	383750
2004	2.154	4804	71.2	9.6	6.21	12	431800
2005	2.45	5782	72.75	9.6	5.79	10.4	482950
2006	2.434	9962	72.58	9.3	5.75	7.85	567800
2007	2.135	672.5	73.5	9.4	5.58	14.35	684350
2008	2.3	182.6	76.1	11	5.40	22	828250
2009	2.365	804.5	80.7	10	5.55	10.28	972950
2010	2.351	22.0	82.2	8	5.62	11.1	1113800
2011	2.4	500	84.8	9.5	5.94	11.8	1297650

The Central Agency for Public Mobilization and Statistics (CAPMAS), Household Income, Expenditure and Consumption Survey (Cairo, 2011)

<http://www.capmas.gov.eg/database.aspx?access=denied&parentid=455&id=456>

The Central Bank of Egypt (CEB), February 2013 Statistical Bulletin, March (Cairo, 2013).

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The Ministry of planning and international cooperation. [www.mic.gov.eg/](http://www.mic.gov.eg/)

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**Table (2): Agriculture Unemployment, Technology Rate, Agriculture Domestic Production, Real Wage Rate, Consumption Expenditure and Agriculture investment in Egypt through the period (2000-2011).**

Year	Agric Unemployment (million)	Technology Rate (%)	Agric. Domestic Prod. (million)	Real Wage Rate (%)	Cons. Expenditure (million)	Agri. investment (million)
2000	0.64	65	53955	6.5	303350	8165.4
2001	0.65	68	56717	6.6	318900	8895.4
2002	0.67	70	61095.5	6.8	342500	7998.55
2003	0.69	73	66537	6.9	383750	6981.3
2004	0.78	74	63241	7	431800	7489.6
2005	0.69	74	65129	6.9	482950	7732
2006	0.71	75	83061.55	7	567800	7917.5
2007	0.73	76	101626.1	7.1	684350	7931.85
2008	0.7	76	104936.7	7.1	828250	7467.4
2009	0.72	75	108425.7	7.11	972950	6803
2010	0.71	74	111778	7.12	1113800	6803
2011	0.7	75	114932.3	7.13	1297650	6788.7

The Central Agency for Public Mobilization and Statistics (CAPMAS), Household Income, Expenditure and Consumption Survey (Cairo, 2011).

<http://www.capmas.gov.eg/database.aspx?access=denied&parentid=455&id=456>

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<http://www.fao.org/DOCREP/003/W3613E/W3613E00.htm>; FAO, Declaration of the World Summit on Food Security, 2009, <ftp://ftp.fao.org/docrep/fao/Meeting/018/k6050e.pdf>

**Table (3): National Unemployment, Privatization, Population, Interest Rate, Exchange Rate , Inflation Rate and Consumption Expenditure in Egypt throw the period (2000-2011).**

Year	GDP	Average Per Capita share of GDP	Exchange Rate	Agri. Investment	Interest Rate	National Unemployment	Privatization
	(million)	LE.	(%)	(million)	(%)	(million)	(million)
2000	324105.4	4914.411	3.48	8165.4	10	1.698	3021
2001	343553.8	5108.607	3.98	8895.4	10	1.783	3242
2002	372591.6	5435.326	4.52	7998.55	9.9	2.021	400
2003	423470.9	6062.576	5.97	6981.3	9.8	2.241	2384
2004	481416.7	6761.471	6.21	7489.6	9.6	2.154	4804
2005	543827.6	7475.293	5.79	7732	9.6	2.45	10622
2006	645765.9	8897.421	5.75	7917.5	9.3	2.434	9962
2007	735893	9141.527	5.575	7931.85	9.4	2.135	672.499
2008	779117.2	9489.856	5.4	7467.4	11	2.3	182.59
2009	817288.7	9764.501	5.545	6803	10	2.365	804.51
2010	845855.8	9927.884	5.6219	6803	8	2.351	21.99
2011	863514.3	9948.321	5.9358	6788.7	9.5	2.4	500

The Central Agency for Public Mobilization and Statistics (CAPMAS), Household Income, Expenditure and Consumption Survey (Cairo, 2011) . <http://www.capmas.gov.eg/database.aspx?access=denied&parentid=455&id=456>

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## دراسة اقتصادية للبطالة في مصر وتأثيرها علي الناتج المحلي الاجمالي

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مركز بحوث الصحراء

### الملخص العربي

البطالة كانت وستظل واحده من أهم التحديات التي تواجه النظم الاقتصادية المختلفة ، حيث أنها تؤدي إلى أحداث تأثيرات سلبية على الاقتصاد القومي . حيث يبلغ حجم قوة العمل في مصر نحو ٢٦.٥٣ مليون عام ٢٠١١ ، في حين أن حجم البطالة بلغت نحو ٣.١٨ مليون يمثلون ١٢٪ من مجموع القوى العاملة عام ٢٠١١ ، بينما ارتفع حجم البطالة الزراعية من ٠.٦٤ مليون في عام ٢٠٠٠ الي نحو ٠.٧٠ مليون عام ٢٠١١ ، مرتفعا بنسبة ٩.٣٨ ٪. ومن ثم بلغت حجم البطالة الزراعية نحو ٣٢.١٢ ٪ من متوسط حجم البطالة علي المستوي القومي خلال الفترة ( ٢٠١١-٢٠٠٠ ) . واوضحت الدراسة ان مقدار الزيادة السنوية في حجم البطالة علي المستوي القومي بلغ حوالي ٥٤ الف نسمة في حين بلغت البطالة الزراعية السنوية حوالي ٥.٦ الف نسمة خلال فترة الدراسة ( ٢٠١١-٢٠٠٠ ) . ومع ذلك ، فإن معدل البطالة في المناطق الحضرية تجاوزت ذلك في المناطق الريفية خلال عام ٢٠١١ ، ويرجع ذلك إلى أن القطاع الزراعي لديه القدرة على استيعاب المزيد من

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العمالة . واطهرت الدراسة، ان معدل البطالة في الفئة التعليمية المتوسطة اعلي الفئات من مجموع العاطلين عن العمل، في كلا من المناطق الحضرية والريفية ، والتي يمكن أن تعزى إلى عدم الرابط بين مستوى التعليم والاحتياجات الحقيقية لسوق العمل . ومن العوامل التي تسهم في ارتفاع حجم البطالة علي المستوى القومي الخصخصة ، عدد السكان ، وسعر الصرف ، بينما يؤدي الإنفاق الاستهلاكي العالي الي تخفيض حجم البطالة. واطهرت الدراسة العوامل التي تؤثر سلبا على حجم البطالة الزراعية وهي الاستثمارات الزراعية و معدل التكنولوجيا، في حين كان معدل الأجر الحقيقي أثر إيجابي على حجم البطالة الزراعية. العوامل التي تؤثر إيجابا على حجم الناتج المحلي الإجمالي هي الخصخصة ، والاستثمار الزراعي، و سعر الصرف ، وحجم البطالة على الصعيد القومي ، وكذلك متوسط نصيب الفرد من الناتج المحلي الإجمالي ، في حين كان لسعر الفائدة تأثير سلبي على حجم الناتج المحلي الإجمالي. لذلك ، توصي الدراسة ببذل جهودا لإعادة توزيع الاستثمارات في مجال الزراعة ، وخفض أسعار الفائدة لتشجيع الاستثمارات ، والحد من معدلات البطالة الزراعية ، وزيادة حجم الناتج المحلي الإجمالي، كما توصي الدراسة بتعديل سياسات الخصخصة، الأمر الذي يؤدي إلى خفض كل من معدلات البطالة علي المستوى القومي والزراعي في مصر.