

Poverty, Employment, Investment, and Education Relationships: The Case of Egypt

SAGE Open
April-June 2017: 1–10
© The Author(s) 2017
DOI: 10.1177/2158244017697156
journals.sagepub.com/home/sgo


Heba Nassar¹ and Marwa Biltagy¹

Abstract

The main objective of this article is to study the poverty, employment, investment, and education relationships in Egypt. The article presents a macro-level analysis and concentrates on promoting economic growth from below and restructuring economic activities in favor of deprived regions. The study starts with a general overview of poverty in Egypt that establishes the beginning for the macro exploration so as to recommend macro policies for fighting poverty. The results ascertain that the decrease in the earnings of individuals can describe the correlation between poverty and employment. Economic growth is believed to be the principal motivation for job creation and extension of social programs that aim at overcoming poverty.

Keywords

poverty, employment, investment policies, investment in education, Egypt

Introduction

Egypt has one of the most developed and diversified economies in the Middle East. Until 2010, Egyptian economy was growing with an average of 5% a quarter as a result of several economic reforms attracting foreign investments. Yet the standard of living conditions for the average Egyptian individuals remained poor and large income disparities continued to grow, leading to the public discontent. The 2011 revolution has caused economic slowdown as political and institutional uncertainty and rising insecurity continue to hurt tourism, manufacturing, and construction.

Increasing investment should be a main concern that would rise demand and promote economic growth. The intensification in public expenditure on education, health, knowledge, and research and development (R&D) can expand human and physical capital. National and international foundations should finance the investment in human and physical capital. Considering the employment aspect, the relationship between poverty and employment is clearly identified by stating that the relatively rapid growth in jobs in the late 1990s, in comparison with the slow pattern of growth in employment since 1987, has led to a decrease in poverty levels. Moreover, the poor were characterized, in general, by lower labor participation rates in the labor force than the non-poor. In fact, differences between participation rates of the non-poor versus the poor exceeded 6 percentage points in every region except for Lower Rural Egypt, where they reached 4 percentage points (World Bank, 2002). The inability of household members to participate in income-generating activities was

considered an important explanation of poverty trends, and the relationship between poverty and employment can be explained by the loss of earnings or the decline in real incomes.

Employment indicators demonstrate the significance of human capital development, for example, working in primary or tertiary activities in public or private sectors requires relatively higher qualifications of human resources. Accordingly, enhancing the educational attainment levels will decrease the likelihood of being poor and in particular for higher educational levels.

The main objective of this article is to study the poverty, employment, investment, and education relationships in Egypt. The article presents a macro-level analysis in order to recommend macro policies for fighting poverty, that is, promoting economic growth from below and redistributing economic activities in favor of deprived regions, especially Upper Egypt in addition to regional targeting of employment pro-poor programs.

This study consists of four main parts excluding introduction and conclusion. The first part introduces the related literature review. The second part proposes a general overview of poverty in Egypt; furthermore, part three presents the

¹ Cairo University, Giza, Egypt

Corresponding Author:

Marwa Biltagy, Associate Professor of Economics, Faculty of Economics and Political Science, Cairo University, Giza, Egypt, Giza 00202, Egypt.
Email: bilmarwa@feaps.edu.eg



framework of the Egyptian labor market. Finally, part four analyzes in a macro level the relationship among poverty, employment, investment, and education in Egypt.

Related Literature Review

Education is considered as an important instrument to reduce poverty. Poor individuals cannot send their children to private schools to realize high quality of education. However, public education system broadens the poverty gap. Krueger and Maleckova (2003) explained the relationship among education, poverty, and violence. They concluded that poverty, low wages, and low level of education were the main reasons of committing crime. In addition, there is a negative relationship between investment in human capital and poverty. To examine prominence of poverty among small farmers in Pakistan, Sabir, Hussain, and Saboor (2006) collected a sample of 300 small farmers from Punjab to estimate their model, and they concluded that age, size of household, low productivity, and poor infrastructure had a limited effect on the level of poverty. However, poverty could be decreased by attaining high levels of education. Abdul-Hakim, Abdul-Razak, and Ismail (2010) studied the correlation of social capital and poverty in Malaysia. The authors used the logit model in their analysis; they concluded that the social, human, and physical capital in addition to age and size of household played a significant role in poverty reduction.

Overeducation can be defined easily by comparing the education levels of individuals with the level of schooling required for the job. The issue of overeducation was expressed in the 1970s when the supply of educated workers seemed to exceed its demand in the labor market (Berg, 1970; Freeman, 1975), seemingly leading to a substantial reduction in the returns to schooling. In economics of education, both private and social returns to education investments can be calculated, where the latter takes government expenditures and externalities into account. Nevertheless, estimation of externalities is very difficult. Duncan and Hoffman (1981) explained the incidence of overeducation and its determinants at the individual level by estimating the extended wage equation. The authors explained that overeducation can be problematic, if jobs have fixed wages and constant levels of productivity. Regarding the requirements of joining a certain job, Hartog and Oosterbeek (1988) explained these requirements by asking for the best preparation for the work, while Alba-Ramirez (1993) discussed the kind of education needed to accomplish a certain job. Feldmann (2009) examined the effects of labor regulation on unemployment (from 2000 to 2003) all over the world by using data on 73 countries. The estimated results ascertained that there was a positive relationship between severe regulations and unemployment. Furthermore, there was a positive relationship between female unemployment and increased centralized bargaining. The author mentioned that the effects of labor regulation were more significant among young

individuals. However, there was no significant effect of minimum wages policy on unemployment.

Leuven and Oosterbeek (2011) mentioned that Duncan and Hoffman examined overeducation by comparing levels of education supplied by workers and education levels demanded by jobs. This means that Duncan and Hoffman (1981) analyzed overeducation/undereducation by estimating the wage function that gives the estimated rate of return of schooling required for the job, rate of return of education of years of overeducation, and rate of return of education years of undereducation.

Biltagy (2014) mentioned that Assaad (1999) compares the earnings of workers in and out of public enterprise in Egypt, while taking account of differences in non-wage benefits and non-random sector selection. The author relates workers' losses to observable characteristics such as seniority, age, educational attainment, and gender and evaluates how well alternative redundancy pay formulas typically used in severance programs match compensation payments to these estimated losses. The results of this study show that women more than men tend to face strong barriers to enter into wage jobs in the private sector and thus have poorer earning prospects.

A General Overview of Poverty in Egypt

The new Panel Household Income, Expenditure, and Consumption Survey (HIECS), 2012/2013, demonstrates that the average poverty line is 3,920 pounds per individual per year (see Table 1). Family consisting of five members needs 1,620 Egyptian pounds per month so that they can meet their basic needs, and a family consisting of four members needs 1,309 Egyptian pounds per month (Central Agency for Public Mobilization and Statistics [CAPMAS], *Indicators of Poverty*, HIECS 2012/2013).

Figure 1 shows the development of the percentage of the poor from 1999/2000 to 2012/2013. It is clear that the poverty rate was 19.6% in 2004/2005, and it reached 26.3% in 2012/2013.

Figure 2 confirms that the highest poverty rate was in rural Upper Egypt (49.44%) in 2012/2013. On the contrary, the lowest poverty rate was in urban Lower Egypt (10.32%) in the same year.

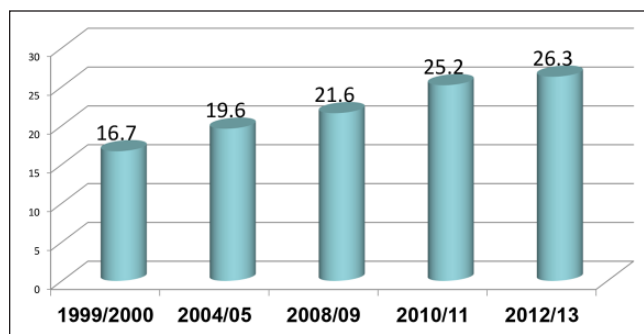
Figure 3 presents the distribution of the poor by region, where Series 1 is the distribution of the poor in 2013, Series 2 is the distribution of the poor in 2011, and Series 3 is the distribution of the total population.

Figure 3 shows that 73.8% of the poor live in rural areas in 2011/2012 compared with 71.5 % in 2012/2013. Furthermore, 50.8% of the poor live in rural Upper Egypt, while it contains 27% of the total population. Similarly, 20.7% of the poor live in rural Lower Egypt, while it holds 31.3% of the total population. Moreover, 10.2% of the poor live in urban governorates, though they seize 17% of the total population.

Table 1. Per Capita Poverty Line/Year.

Governorates	Total poverty line		Abject poverty line	
	2010/2011	2012/2013	2010/2011	2012/2013
Urban Governorates	3,315	4,318	2,189	2,751
Urban Lower Egypt	3,025	3,835	1,967	2,480
Rural Lower Egypt	2,998	3,854	2,046	2,566
Urban Upper Egypt	3,144	3,968	2,061	2,562
Rural Upper Egypt	3,019	3,760	2,039	2,493
Urban Border	2,992	3,990	2,129	2,732
Rural Border	3,153	3,979	2,239	2,689
Total	3,076	3,920	2,061	2,570

Source. Central Agency for Public Mobilization and Statistics, *Indicators of Poverty*, HIECS 2010/2011, 2012/2013.

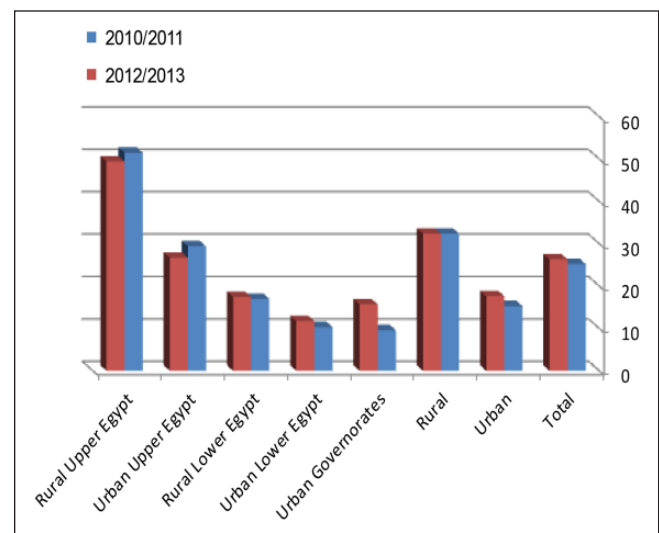
**Figure 1.** The development of the percentage of the poor (1999/2000-2012/2013).

Source. Central Agency for Public Mobilization and Statistics, *Indicators of Poverty*, HIECS 2010/2011, 2012/2013.

The Framework of the Egyptian Labor Market

Nassar and Biltagy (2016) said that “the Egyptian economy has a large and growing informal sector that has been a major source of job creation for some time. However, the jobs created in this sector are not decent enough in terms of wage, sustainability, and work conditions. Moreover, a lot of jobs in the formal sector lack stability due to the absence of social security coverage and work contracts, as employers refuse to enter into binding work contracts and complain of the high cost of the social security system. Informal employment can be measured using Labor Force Sample Survey (LFSS) data, in which case, it will be defined as the number of private sector workers employed outside establishments (including agriculture). Depending on LFSS 2008 and 2013, it is concluded that the informal employment reached 10.8 million in 2008, representing 48.1% of total employment, and it reached 11.3 million in 2013, representing 47% of total employment.

Table 2 indicates clearly the low skilled workforce of Egypt as 10% of total labor force is illiterate and 3% is under the category “read and write.” Nevertheless, the percentage of working individuals with above intermediate education is 4%.

**Figure 2.** The evolution of the poverty rate by regions (2010/2011-2012/2013).

Source. Drawn by the authors using El-Laithy (2014) calculations.

Table 3 presents the percentage increase of employment by economic activities over the period 2001-2012 and shows that construction; electricity, gas, and water; and transportation have experienced the highest percentage increase in employment over the same period, but together these sectors still represent only 20.6% of total employment. On the contrary, agriculture, manufacturing, and financial and insurance activities are negative employment absorbing sectors over the period 2001-2012.

Feldmann (2008) analyzed the effects of anticompetitive business regulations on the labor market's performance by using data on 74 economies over the period 2000-2003. The results clarified that the rates of unemployment increased with anticompetitive business regulations, especially among young individuals.

In Egypt, unemployment increased from 9% in 2000 to 13% in 2012 as illustrated in Table 4. The rate declined to

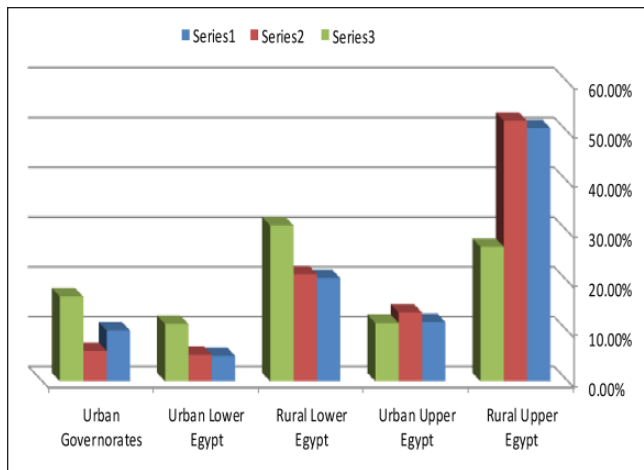


Figure 3. The distribution of the poor by region (2010/2011-2012/2013).

Source. Drawn by the authors using El-Laithy (2014) calculations.

10.6% in 2006; however, after the economic crisis, it is estimated to have increased to 9.4% in April 2009.

The majority of the unemployed persons is young people in the 15 to 29 years age group and is new entrant to the labor market, who was seeking a job for the first time. Unemployment is distributed evenly between both urban and rural areas. It was mainly concentrated among secondary school graduates and university graduates.

Unemployment rate in Egypt decreased to 12.9% in the fourth quarter of 2014 from 13.10% in the third quarter of 2014. Unemployment rate in Egypt averaged to 10.63% from 1993 until 2014, reaching the highest value of 13.40% in the third quarter of 2013 and the lowest value of 8.10% in the second quarter of 1999.

Despite the fact that Egypt is endowed with surplus of manpower, the mismatch between the educational system and the labor market is a major problem. This is reflected in the abovementioned relatively high unemployment rates in Egypt, especially among higher education graduates (university and above university). CAPMAS, Annual Statistical Book (2014) reported that almost one third of unemployed individuals in Egypt were university graduates (31.1%). Moreover, the unemployment rate among male university graduates was 24.4%, while it was 40.1% among female university graduates. It can be said that language and computer skills have become basic skills that the labor market consider as necessary and elementary, not an asset. In the present time, there has been an increased attention to the importance of providing high-quality and well-integrated training programs that could provide the young students with the basic skills they need in the labor market. Several surveys and studies have indicated the problems the young graduates face in getting engaged in the labor market. On the contrary, it was always cited that employers face several problems in finding qualified graduates.

Figures 4 and 5 demonstrate the regional distribution of employment by sector in 2001 and 2013; it is clear that the greatest number of workforce is in the private (outside) sector with relatively very low wages in 2001 and 2013.

On the contrary, Figures 6 and 7 show the regional distribution of employment by work status. In 2001, in rural and urban areas, being an employer absorbs more workforce when compared with family workers or self-employed categories. In 2013, in urban areas, being self-employed (16%) absorbs more workers when compared with family workers (5%) or employer (7%) categories, while in rural areas, being a family worker (16%) or an employer (16%) attracts slightly more labor than self-employed (14%) category.

Macro-Level Analysis

Due to the declining employment absorption rate in the productive sectors over the 1970s, the main labor absorptive sectors were both the untradable sectors and the construction. Two additional mechanisms were developed to absorb surplus labor: the growth of the informal sector in urban areas and external migration to the oil-rich economies which absorbed almost one eighth of the Egyptian labor force on average over the period 1974-2008.

During the period 1973-1986, the Egyptian economy enjoyed exceptional high overall growth rates, due to several external factors; however, unemployment rates rose above 7% due to the low labor absorptive capacity in the productive sectors. During the second 5-year plan (1987/1988-1991/1992), economic growth was slow and GDP grew in real terms by 4% to 3% on average. Several factors contributed to the deteriorating record of growth, the most important of them were the external shocks (the decline in oil prices and the implications of the Gulf crisis), coupled with the contraction of the investment activities and the deflationary measures adopted by the government to implement the first phase of the Economic Reform and Structural Adjustment Program (ERSAP) launched in 1990. The second half of the 1990s witnessed favorable internal and external developments that led to a remarkable growth of the economy. The rate of growth was estimated at (5%-6%) in the years 1997/1998 to 1999/2000 (Nassar, 2011), but unemployment rose 8% to 9%.

Despite efforts exerted by the government to boost economic growth and promote job creation, the early years of the new millennium witnessed a sharp recession, and GDP growth rates fell to 3.2 in 2002/2003 that negatively impacted job creation. The external shocks which have hit the economic growth including the East Asian financial crisis during the late 1990s, the decline in oil prices, as well as the Luxor terrorist attacks affected also the employment absorption rate.

Until 2010, Egyptian economy was growing with an average of 5% as a result of several economic reforms. However, living standards for the majority of population remained

Table 2. Distribution of Working Individuals (15-64 Years) By Education and Gender (2013).

	Illiterate	Read and write	Below intermediate	Intermediate	Technical intermediate	Above intermediate	University and above	Total
Male	2,740	1,132	2,646	425	7,853	967	5,078	20,841
	13%	5%	13%	2%	38%	5%	24%	100%
Female	827	108	478	167	7,125	662	6,281	15,648
	5%	1%	3%	1%	46%	4%	40%	100%
Total	3,567	1,240	3,124	592	14,978	1,629	11,359	36,489
	10%	3%	9%	2%	41%	4%	31%	100%

Source. Central Agency for Public Mobilization and Statistics, *Labor Force Sample Survey* 2013.

Table 3. Percentage Distribution of Employees (15 Years Old+) by Economic Activity (2001, 2012).

Economic activity	2001	2012	Percentage of increase
Agriculture and hunting	28	27.1	-3%
Manufactures	12	11.2	-7%
Electricity, gas, and Water	1.2	1.8	50%
Construction	7.7	11.8	53%
Wholesale and retail trade	12.4	11	-11%
Transportation and storage	5.9	7	19%
Financial and insurance activities	1.1	0.8	-27%
Real estate	1.9	0.1	-95%
Public administration, defense, and compulsory social solidarity	10.8	8	-26%
Education	10.4	9.5	-9%
Health and social work activities	3.2	2.8	-13%
Others	2.3	3.1	
Total	100	100	

Source. Authors' calculations based on the data from Central Agency for Public Mobilization and Statistics, *Labor Force Sample Survey*, 2001, 2012.

poor and large income disparities continued to grow, leading to the public dissatisfaction. The 25 January Egyptian revolution, which toppled President Hosni Mubarak regime, has caused economic slowdown because of political and institutional uncertainty and rising insecurity.

So, growth was optimistic during the period 2004-2010 but did not create jobs adequately to absorb the growing population. Economic growth was determined primarily by consumption. However, the contribution of the net exports to the real GDP growth was negative in 2011-2014 as illustrated in Figure 8, and exports of non-oil products were only 4.8% of GDP in 2013/2014 (International Monetary Fund [IMF], 2015). The macroeconomic hazards and the distortions in microeconomic indicators are considered the main restrictions to Egyptian economic growth.

Figure 9 shows the real GDP in billions of Egyptian pounds from 2007 to 2014. The figure presents the trend of GDP before and after the Egyptian revolution in 2011. It is clear that the growth rate of GDP slowed down post-2011 and increased afterward.

Table 4. Unemployment Rate (15-64 Years) by Gender (2000-2014).

Year	Male	Female	Total
2000	5.1	22.7	9
2001	5.6	22.6	9.2
2002	6.3	23.9	10.2
2003	7.5	23.3	11
2004	5.9	24.3	10.3
2005	7.1	25.1	11.2
2006	6.8	24.0	10.6
2007	5.9	18.6	8.9
2008	5.6	19.3	8.7
2009	5.2	23.0	9.4
2010	4.9	22.6	9.0
2011	8.9	22.7	12.0
2012	9.6	24.7	13
Second quarter of 2014.	9.8	24.8	13.3

Source. CAPMAS, *Egypt in Figures*, 2013; CAPMAS, *Labor Force Sample Survey*, Various issues; CAPMAS, *Annual Statistical Book*, 2014.

Note. CAPMAS = Central Agency for Public Mobilization and Statistics.

Central Bank of Egypt, *Economic Review* (2013/2014) shows that GDP in Egypt expanded to 4.3% in the fourth quarter of 2014 compared with 1.44% over the same quarter of the year 2013 and 2.2% in 2012. GDP growth rate in Egypt averaged 3.79% from 1992 to 2014, reaching the highest value of 7.30% in the first quarter of 2008 and the lowest record of -4.30% in the first quarter of 2011.

Figure 10 presents the rate of growth of GDP by economic sector in 2013/2014. The figure indicates the tremendous increase in the manufacturing sector (63.1%); however, sectors with the lowest rate of growth of GDP were extractions (-43.7%) and tourism (-40.8%).

With the relative increase of the share of the manufacturing sector in GDP, it is clear that the Metropolitan cities yield the higher contribution in the total production in general (56.2%), while the contribution of Upper Egypt in total production is still very low (14.4%) (see Table 5).

A small percentage of investments was allocated to Upper Egypt in 1996/1997-2000/2001. The Metropolitan areas, in

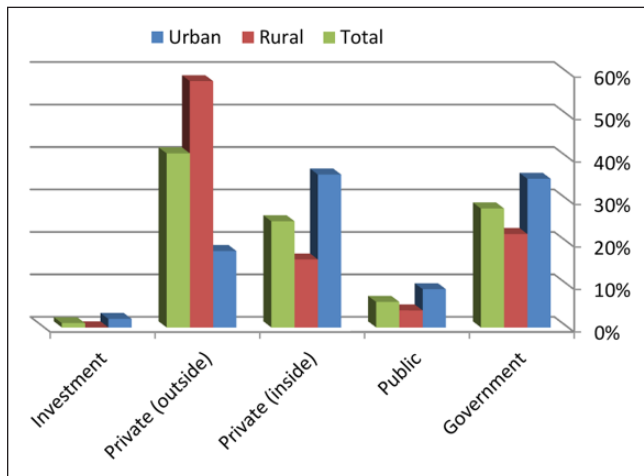


Figure 4. Regional distribution of employment by sector (2001).
Source. Drawn by the authors based on Central Agency for Public Mobilization and Statistics, *Labor Force Sample Survey 2001*.

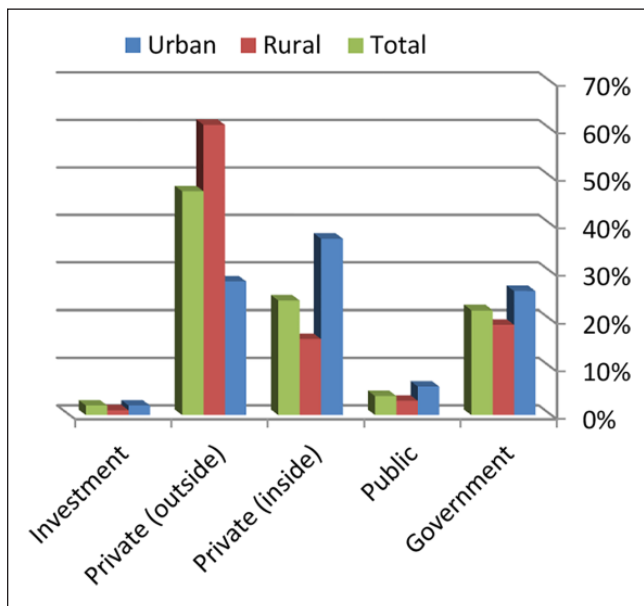


Figure 5. Regional distribution of employment by sector (2013).
Source. Drawn by the authors based on Central Agency for Public Mobilization and Statistics, *Labor Force Sample Survey 2013*.

the plan 1996/1997-2000/2001, have received 52% of investments for industry and 28% of investments for services due to the concentration of these activities in these areas. However, Upper Egypt's share in investment allocations to agriculture was 42%. This addresses a long-term process in Egypt, already since the 1960s, as industrial investment allocations were always favoring Metropolitan areas at the expense of Upper Egypt. Moreover, Upper Egypt's share in regional investment declined from 37% in 1995 to 30% in 1999. Meanwhile, Lower Egypt's share in investment increased from 33% in 1995 to 38% in 1999 with an increase in investment allocated to Metropolitan areas from 30% in 1995 to 32% in 1999 (Nassar, 2003).

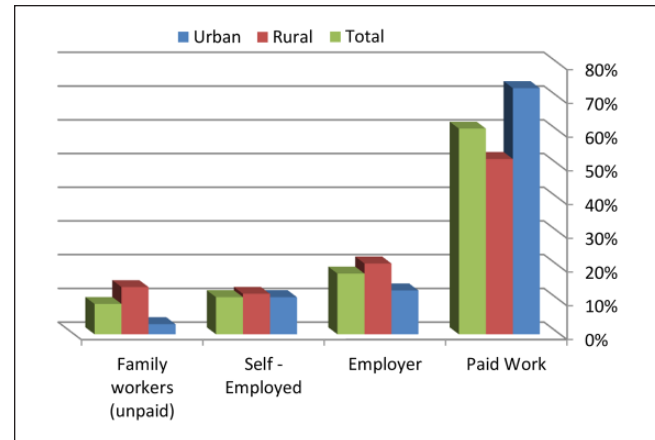


Figure 6. Regional distribution of employment by work status (2001).

Source. Drawn by the authors based on Central Agency for Public Mobilization and Statistics, *Labor Force Sample Survey 2001*.

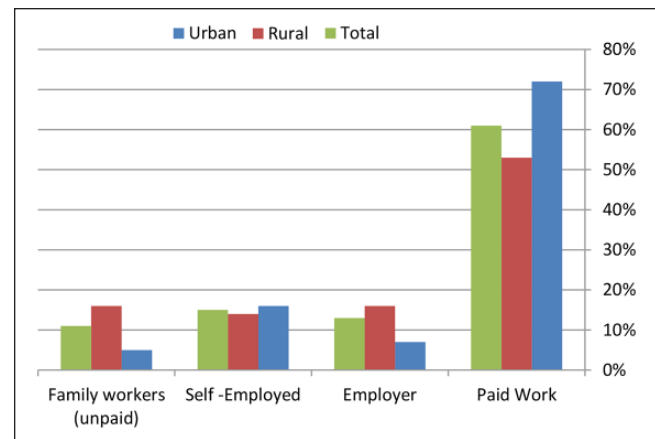


Figure 7. Regional distribution of employment by work status (2013).

Source. Drawn by the authors based on Central Agency for Public Mobilization and Statistics, *Labor Force Sample Survey 2013*.

The reported investment rate was 22% in 2008/2009; this rate began to decrease to 17.1% in 2010/2011 and 16.4% in 2011/2012 until it reached 14% in 2013/2014, as shown in Figure 11. These investment rates are far from the needed level to create more jobs in the economy.

In addition, investments are mainly allocated to those sectors with low employment intensity of growth. According to the Ministry of Planning (2006), the distribution of investment by economic activity showed that the sectors with low employment elasticities such as transport, communication, and Suez Canal (0.20), mining (0.16), and social services (0.18) received the largest shares of investments amounting to 19.9%, 17.9%, and 15.1%, respectively, in 2004/2005, while the activities with the highest employment elasticities that can create more jobs such as manufacturing (0.61), trade, finance and insurance (0.55), and construction (0.51) received lower shares of investment, amounting to 13.2%, 12.3%, and 2%, respectively, during the same year.

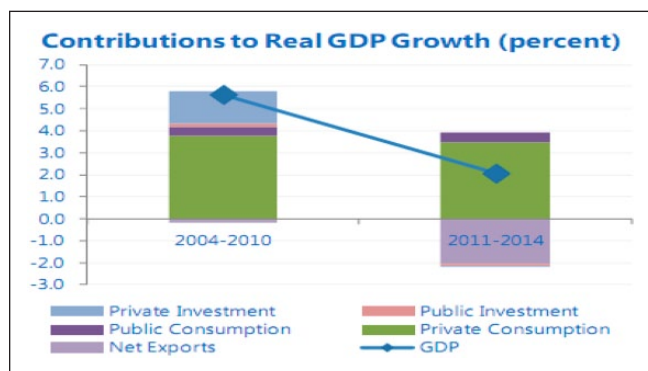


Figure 8. Contribution to real GDP growth (%) (2004-2014).
Source: International Monetary Fund (2015).

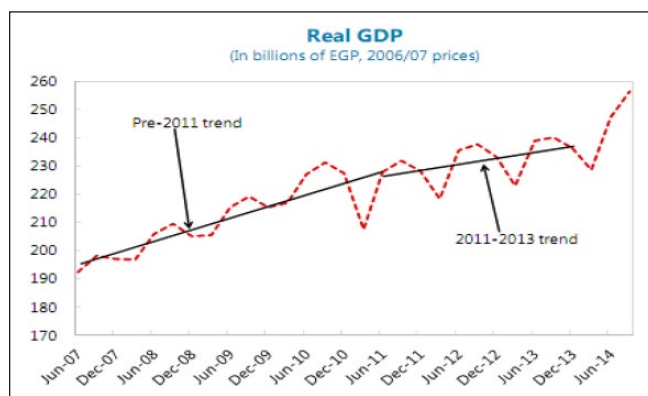


Figure 9. Egypt real GDP (in billions of EGP) (2007-2014).
Source: International Monetary Fund (2015).

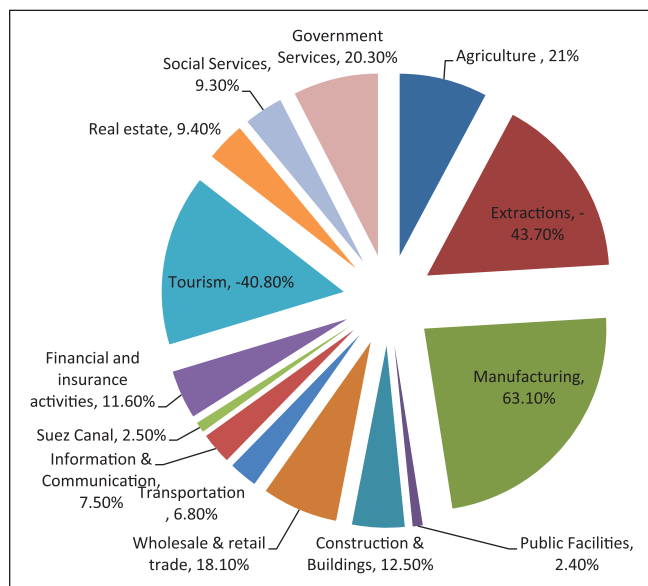


Figure 10. Contribution of economic sectors in GDP growth rate in 2013/2014.
Source: Drawn by the authors based on Ministry of Planning (2015).

Table 5. Contribution of Geographical Region in Total Production (2012/2013).

Geographical region	%
Metropolitan	56.2
Lower Egypt	17.4
Upper Egypt	14.4
Frontier Governorates	12

Source: Central Agency for Public Mobilization and Statistics (2013).

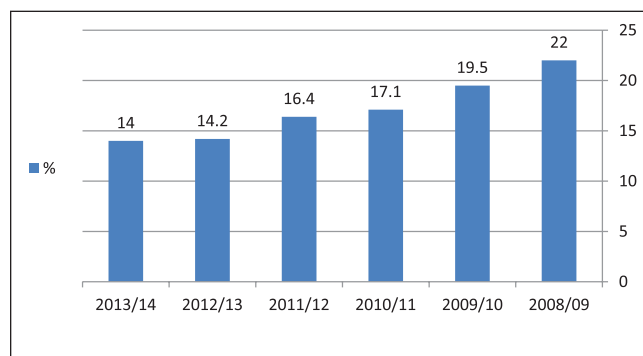


Figure 11. Investment rates in Egypt (2008/2009-2013/2014).
Source: Drawn by the authors based on International Monetary Fund (2015).

Table 6. Distribution of Public Investments by Region (2012/2013).

Region	Investments (LE million)	Share (%)
Greater Cairo	569.2	16.4
Alexandria	471.8	13.4
Delta Region	428.8	15.8
Canal Region	463.9	13.6
Northern Upper Egypt	754.5	12.4
Middle Upper Egypt	227.4	6.6
Upper Egypt (Southern Region)	545.7	21.8
Total	3,461.3	100

Source: Ministry of Planning (2012).

In 2013/2014, the distribution of implemented investments indicated a different pattern. The total investment on agriculture sector was 4%, the construction sector received 1%, real estate received 11%, manufacturing sector received 15%, and natural gas, electricity, and water received 17%. Furthermore, implemented investments of the private sector accounted for the bulk of total investments, asserting the continuous main role played by this sector in the development process (Ministry of Planning, 2006).

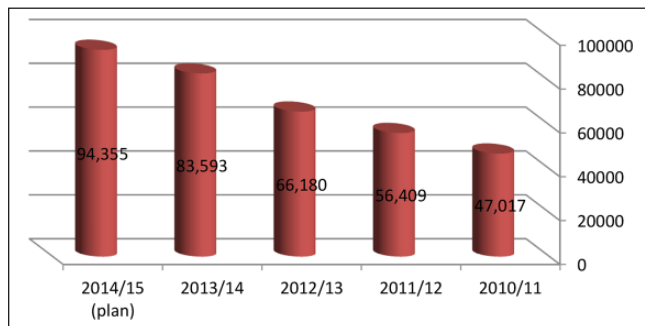
Poverty, Investment, and Education Relationships

Table 6 shows the distribution of public investments by region in 2012/2013 in which investment was great in Southern and

Table 7. The Distribution of Public Expenditure on Education (2010/2011-2013/2014).

Item (%)	2010/2011	2011/2012	2012/2013	2013/2014
Public expenditure on education to the total public expenditure	11.7	10.6	12	11.7
Public expenditure on pre-university education (% of total expenditure on education)	66.4	66.3	66.7	68.1
Public expenditure on university education (% of total expenditure on education)	21.8	21.4	21.4	22.4
Other aspects of expenditure on education to the total expenditure on education	11.9	12.3	11.9	9.8
Public expenditure on education as % of GDP	3.4	3.6	3.8	4.1

Source. Central Agency for Public Mobilization and Statistics, *Egypt in Figures*, 2012, 2014, and 2015.

**Figure 12.** Public expenditure on education 2010/11-2014/15 (in million Egyptian pounds).

Source. Drawn by the authors based on UNICEF (2014).

Northern Upper Egypt. Nassar and Biltagy (2016) said that “this trend of investment can explain the situation of poverty by region in Egypt over years. Over the period 1995/1996-1999/2000, poverty has declined in the Metropolitan cities and increased in Upper Egypt and was at intermediate levels in Lower Egypt. The incidence of poverty increased substantially from 10.82% to 19.27% in urban Upper Egypt and from 29.32% to 34.15% in rural Upper Egypt. On the contrary, over the period 2010/2011-2012/2013, the urban governorates have seen the biggest rise in the poverty indicators (becoming more deteriorated). Moreover, the poverty rate has fallen in Upper Egypt, whether in urban or rural areas, and the difference was statistically significant.

Table 7 presents the distribution of public expenditure on education in 2010/2011-2013/2014. It is clear that public expenditure on education as % of GDP was 3.4% in 2010/2011 and 4.1% in 2013/2014.

Figure 12 shows that the spending on education amounted to about 94.4 billion Egyptian pounds (12% of total public expenditure) in 2014/2015, compared with 83.6 billion Egyptian pounds in 2013/2014. Pre-university education gets 72% of the total expenditure on the education sector, while wages and salaries get about 85% of the total sector expenditures. The per capita expenditure on education reaches about 5,000 Egyptian pounds in 2014/2015. There is a negative relationship between the level of education and the poverty rate in Egypt.

Conclusion

Economic growth is believed to be the driving force for job creation and extension of social programs aimed at overcoming poverty. Poverty levels in general decrease faster than the rate of growth in economic growth due to the sensitivity of poverty to growth (United Nations Development Programme [UNDP] & Institute of National Planning [INP], 1996). The future outlook of the employment problem in Egypt suggests a high rate of growth per annum to keep unemployment rate constant.

This requires the following:

- a. Periodic geographical identification of the poor in the labor market by supporting the database for labor market data and poverty monitoring at the regional level:

It is crucial to study the relationship between employment and income using a long period, taking into consideration primary and secondary jobs. Longitudinal studies at the regional level enable the investigation of trends in poverty and poverty alleviation mechanisms. Furthermore, the yearly regional surveys of the informal sector by governorates are very important to study the main employment characteristics of this sector and its production activities.

- b. Promoting economic growth from below: redistribution of economic activities in favor of deprived regions:

Egypt is also characterized by polarization of growth in urban centers, rural out-migration, misallocation of resources, and inadequate infrastructural support, in particular in rural Upper Egypt. Hence, if the focus of the government is to improve the living conditions of the underdeveloped regions, then growth has to be located in these areas.

Meanwhile, poverty reduction potentials depend on the responsiveness of poverty to changes in mean incomes. This implies that higher growth elasticity will remain a greater potential for poverty reduction.

- c. Investment-led growth:

Growth has to be a pro-employment growth by advocating the importance of directing investment toward employment creation and poverty reduction. This means strengthening the capacity at regional level to design investment-led growth strategies, which is the first step toward an investment policy. Promoting local labor-intensive, productive, and enterprise supportive investments is another way at sectoral level to enhance investment (Bhattacharya & Rajeev, 2014).

d. Regional targeting of employment pro-poor programs:

Regional targeting of employment pro-poor programs means the determination of regional objectives for job creation in both rural and urban areas in each region in accordance with the needed regional skills requirements for different development projects and the design of various geographical employment programs.

e. Regional reallocation of social spending:

The revision of social spending in Egypt indicates a regional gap in terms of social spending on health and educational services in particular, in addition to the bias in the investment allotments in productive sectors to certain regions at the expense of Upper Egypt. This might have implications for human resource development in addition to the creation of job opportunities in the different regions.

f. Upgrading the skills of the labor force at the regional level (human resource development):

Poverty in general and particularly in Upper Egypt is always related to poor employment opportunities in marginal activities with low wages as a result of low productivity. In employment-poverty reduction policies, there is an essential need to reform the education system in order to meet the basic market needs, accompanied with the provision of training programs, that will raise the productivity levels. In fact, educational attainment levels have witnessed an increase in Egypt; yet the divide between rural and urban areas remains very high, and it considered an important obstacle of the flow of agricultural labor into higher productivity and higher skills activities. Therefore, improving skills of the labor force in this region becomes an important policy measure for poverty reduction by

- Closing the gap between primary and tertiary levels of education in Upper Egypt in particular,
- Enhancing training relevance needs by closing the gap between regional enterprises' needs in the most productive activities and available skills,
- Improving accessibility of the poor in rural and urban areas to efficient training systems, and
- Improving accessibility of the poor to the educational system in general.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

References

- Abdul-Hakim, R., Abdul-Razak, N., & Ismail, R. (2010). Does social capital reduce poverty? A case study of rural households in Terengganu, Malaysia. *European Journal of Social Sciences*, 14, 556-566.
- Alba-Ramirez, A. (1993). Mismatch in the Spanish labor market: Overeducation? *Journal of Human Resources*, 28, 259-278.
- Assaad, R. (1999). Matching severance payments with worker losses in the Egyptian public sector. *World Bank Economic Review*, 13, 117-153.
- Berg, I. (1970). *Education and jobs: The great training robbery*. New York, NY: Praeger.
- Bhattacharya, T., & Rajeev, M. (2014, May). *Identifying employment creating sectors in India: An analysis of input-output linkages* (ICDD Working Papers, Paper No. 12, pp. 1-24). Kassel, Germany: International Center for Development and Decent Work.
- Biltagy, M. (2014). Estimation of gender wage differentials in Egypt using Oaxaca decomposition technique. *Topics in Middle Eastern and African Economies*, 16, 17-42.
- CAPMAS. (2013). *Central Agency for Public Mobilization and Statistics, Census of Economic Establishments, 2012/2013*. Retrieved from <http://www.capmas.gov.eg/>
- CAPMAS. *Central Agency for Public Mobilization and Statistics, Egypt in Figures, Arab Republic of Egypt, 2012, 2013, 2014, 2015*. Retrieved from <http://www.capmas.gov.eg/>
- CAPMAS. *Central Agency for Public Mobilization and Statistics, Indicators of Poverty, The Panel Household Income, Expenditure, and Consumption Survey (HIECS survey), Arab Republic of Egypt, 2005-2008, 2010/2011, 2012/2013*. Retrieved from <http://www.capmas.gov.eg/>
- CAPMAS. *Central Agency for Public Mobilization and Statistics, Labor Force Sample Survey (LFSS), Arab Republic of Egypt, 2001, 2008, 2012, 2013*. Retrieved from <http://www.capmas.gov.eg/>
- CAPMAS. *Central Agency for Public Mobilization and Statistics, Statistical Yearbook, Arab Republic of Egypt, 2014*. Retrieved from <http://www.capmas.gov.eg/>
- Central Bank of Egypt. (2013/2014). Economic research sector. *Economic Review*, 54, 1-165.
- Duncan, G., & Hoffman, S. (1981). The incidence and wage effects of overeducation. *Economics of Education Review*, 1, 75-86.
- El-Laithy, H. (2014). *Poverty and inequality metrics*. Unpublished memo.
- Feldmann, H. (2008). Business regulation and labor market performance around the world. *Journal of Regulatory Economics*, 33, 201-235.
- Feldmann, H. (2009). The unemployment effects of labor regulation around the world. *Journal of Comparative Economics*, 37, 76-90.

- Freeman, R. (1975). Overinvestment in college training? *Journal of Human Resources*, 10, 287-311.
- Hartog, J., & Oosterbeek, H. (1988). Education, allocation and earnings in the Netherlands: Overschooling? *Economics of Education Review*, 7, 185-194.
- International Monetary Fund. (2015). IMF Country Report No. 15/33, Arab Republic of Egypt, Staff Report for the 2014 Article IV Consultation, pp. 1-70.
- Krueger, A., & Maleckova, J. (2003). Education, poverty and terrorism: Is there a causal connection? *Journal of Economic Perspectives*, 17, 119-144.
- Leuven, E., & Oosterbeek, H. (2011). *Overeducation and mismatch in the labor market*. Discussion Paper Series, IZA, Institute for the Study of Labor, DP No. 5523. pp. 1-53).
- Ministry of Planning. (2006, 2013/14). *Ministry of Planning, Unpublished Statistical Database, 2006 and 2013/2014*.
- Ministry of Planning. (2012). *Unpublished Follow-Up Report for the Implementation of the Socio-Economic Plan for the fiscal year 2012/2013*.
- Ministry of Planning. (2015, January). *General Authority for Investment and Free Zones, GAFI, Recent Developments in the Egyptian Economy*, pp. 1-33.
- Nassar, H. (2003). Understanding regional poverty: The employment paradox. *World Bank Project on Poverty Strategies in Egypt, Ministry of Planning and World Bank*, Unpublished Memo, pp. 1-92.
- Nassar, H. (2011). *Growth, economic policies and employment linkages* (Employment Sector, Employment Working Paper No. 85). Geneva, Switzerland: International Labour Office.
- Nassar, H., & Biltagy, M. (2016). The nexus of regional poverty and education in Egypt: A micro analysis. *International Journal of Economics and Financial Issues*, 6, 1446-1453.
- Sabir, H., Hussain, Z., & Saboor, A. (2006). Determinants of small farmers poverty in the Central Punjab (Pakistan). *Journal of Agriculture and Social Sciences*, 2, 10-12.
- United Nations Development Programme & Institute of National Planning. (1996). *Egypt human development report on poverty*. Cairo, Egypt: Author.

UNICEF. (2014). *Children in Egypt: A statistical digest*. Cairo: UNICEF Egypt.

World Bank and Arab Republic of Egypt. (2002, June). *Poverty reduction in Egypt, diagnosis and strategy*. The World Bank and The Ministry of Planning, Government of the Arab Republic of Egypt. Retrieved from <http://www.foresightfordevelopment.org/library/55/1414-poverty-reduction-in-egypt-diagnosis-and-strategy-vol-2-of-2>

Author Biographies

Heba Nassar is a professor of economics at the Faculty of Economics and Political Science (FEPS) and director of the Scientific Journal of FEPS. She was the former vice president of Cairo University. She held also the positions of chair of the Economic Department, vice dean for Community Development and the director of the Center for Economic and Financial Research and Studies at FEPS. She is a member of the Advisory Board of the Migration Policy Center, Mediterranean Institute, and of the international association of institutions committed to strengthening the civic roles of higher education and the UN Working Group on Global Compact for Universities, founding member of the MENA Health Policy Forum as well as the Research Alliance for Development, World Bank, Paris, OECD Task force for Women Entrepreneurship.

Marwa Biltagy is an associate professor of economics at the Faculty of Economics and Political Science, Department of Economics, Cairo University, Egypt, and a research associate at Economic Research Forum. She is deputy head of International Relations Office, FEPS; department's representative of the Post-Graduate Studies, Economics Department, FEPS; academic leader for the Credit Hour System, Post-Graduate Studies, Economics Department, FEPS. She received the prize of best MSc and PhD theses in Cairo University in 2005 and 2010. She is specialized in economics of education, economics of labor and human resources, and behavioral economics. She is member in the several professional associations, for example, American Economic Association (AEA), Middle East Economic Association (MEEA) and International Association for Feminist Economics (IAFE).