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**Education and Economic Empowerment  
Of Women in Egypt**

**Somaya Ahmed Aly Abdel Mowla**

*Working Paper #002*

**Working Papers Series**

**Education and Economic Empowerment  
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**SRC/CIDA Research Program on  
Gender and Work**

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## **Preface:**

The concern for women economic empowerment has been a priority in the agenda of many national, non-governmental as well as international stakeholders in Egypt. Despite the various efforts that were carried on by the government and the different stakeholders concerned with the women economic participation in Egypt, it is evident that there are still various challenges and gaps that still hinder women full participation in the labor market and economic life. These main gaps include: The low women economic participation (around 20%), high unemployment rate (around three folds that of males), and the poor working conditions of women particularly in the informal sector.

Moreover globalization was found to bring a mixed bless and curse for women; trade liberalization, rapid developments of information and communication technology, increased roles of Multinational corporations and many other manifestations of the global economy we are living in pose positive well as negative results for working women depending on their vulnerability in the labor market. This created the need to pursue thorough research to tackle how all these challenges are affecting women ability to participate, work, progress and be empowered.

In the frame of the Consortium (RPC) on Pathways of Women's Empowerment, the Social Research Center- the American University in Cairo with the funding from the CIDA have initiated the **SRC/CIDA research program for research policy papers and policy briefs on gender and work.**

**The project aimed at producing** policy research papers and policy briefs on the various factors affecting women and work at the four levels: the household level, the enterprise level, the economy level and the global economy level.

### **The SRC/CIDA research program on gender and work aimed at:**

- Issuing policy research papers and policy briefs on women and work
- Producing guidelines and recommendations that are supported by empirical knowledge, for policies and actions to support women work as a tool for women economic and social empowerment.
- Encouraging evidence based debate on needed policies for women economic empowerment.
- Contributing to an open environment of data access and effective use of field surveys in policy research papers.

### **The project produced two outputs:**

- ***Four Research Papers*** tackling different important aspects of women work in Egypt. These included examining work and women economic empowerment in the Egyptian context, the relation between education, women empowerment and work in Egypt. Another important aspect the project looked at is the evolution of wage and job quality for men and women in the Egyptian labor market in the formal private and public sectors over the period (1998-2006). The fourth research paper examined an important new topic which has emerged recently as a result of the increased technological development which is the information and communication technology (ICT). It aims at assessing the impact of ICT on gender equality in Egypt focusing on differentials in wage rates and employment opportunities.

- *Based on the results of the research papers; four policy briefs* were prepared that aimed at providing the policy maker with clear and concrete policy advice. The briefs were prepared in Arabic.

**The most important results stressed on by the papers and the briefs** included that although the constitution and the Egyptian labour law stress on gender equality, however, it seems important to have an equal pay act, ensuring equal pay for equal work, in a broader sense, one which prohibits discrimination at the entry points into the labor market, in job titles, in job ranks and in pay scales, is yet to be passed.

The analysis indicates that there is a significant change in various views and social values regarding the right of women to participate, however, there is still a need to adopt labour market policies that support women's participation. These policies include: flexible working time (for example part-time jobs), designing macro and micro economic policies to better address women's employment problems especially in the private sector, and providing accessible and affordable daycare centers and other services which are important. Supporting an effective women's entrepreneurship policy could be an effective way to increase female labor force participation and to face female unemployment

Regarding the impact of education on women economic empowerment, it is evident that education is found to have a powerful influence on women's labor market pathways in Egypt. However, it is also found that raising female education level is not enough to boost young women's economic empowerment. To strengthen education as a path to enhance women's economic participation and opportunity in Egypt, there is an urgent need to focus on improving education quality, and targeting girls from secondary and technical education as they are more vulnerable to unemployment and engagement in the informal sector.

Information and Communication technology sector appears to be a promising field for improving women engagement in labor market and the community in general, however more efforts should be devoted to increase their engagement. To be able to reap from the benefits of ICT, women must be equipped with skills to prepare them for a range of roles not only as ICT users, but also as creators and designers.

**In preparing the research papers and the policy briefs; the SRC/CIDA research program on gender and work have benefited from various consultative group meetings** where participants from academia, research, donor organizations offered advice and guide to the researchers in designing their research work as well as in formulating the policy advice.

**The project benefited from the Egypt Labor Market Panel Survey of 2006 (ELMPS 06).** ELMPS 06 is a follow-up survey to the Egypt Labor Market Survey of 1998 (ELMS 98), which was carried out in November-December 1998 by the Economic Research Forum (ERF) in cooperation with the Egyptian Central Agency for Public Mobilization and Statistics (CAPMAS) – the main statistical agency of the Egyptian government . ELMS 98 was carried out on a nationally-representative sample of 4,816 households and was designed to be comparable to the special round of the Egyptian Labor Force Survey carried out in October 1988 (LFSS 88). The ELMPS 06 is the second round of what is intended to be a periodic longitudinal survey that tracks the labor market and demographic characteristics of the households and individuals interviewed in 1998, any new households that might have formed as a result of splits from the original households, as well as a refresher sample of households to ensure that the data continue to be nationally representative.

The final sample of 8,349 households is made up of 3,684 households from the original ELMS 98 survey, 2,167 new households that emerged from these households as a result of splits, and a refresher sample of 2,498 households. Of the 23,997 individuals interviewed in 1998, 17,357 (72 percent) were successfully re-interviewed in 2006, forming a panel that can be used for longitudinal analysis. The 2006 sample contains an additional 19,743 “new” individuals. Of these 2,663 individuals joined the original 1998 households, 4,880 joined the split households, and 12,200 were part of the refresher sample of households.

# Education and Economic Empowerment of Women in Egypt

Somaya Ahmed Aly Abdel Mowla<sup>1</sup>

## *Working Paper #002*

### ***Abstract***

*This study examines association between education and economic empowerment of women in Egypt. Using the Egypt Labor Market Panel Survey of 2006, the study evaluates the effects of the level and type of education on women's ability to get a wage work and the quality of work they get. Focusing on young women, the study assesses the association between the type of education and the different paths of girls to the labor market. It is found that education has a powerful influence on women's labor market pathways in Egypt; higher female education levels result in higher presence in the work force and higher competitiveness. Women are found to benefit more than men from higher education in terms of improving their labor market outcomes. This in turn reduces the gender gap in the labor market. However, it is also found that raising female education level is not enough to boost young women's economic empowerment. To strengthen education as a path to enhance young women's economic participation and opportunity in Egypt, there is an urgent need to focus on improving education quality. The study suggests a number of policy interventions needed to strengthen education as a path to enhance women's economic participation and opportunity in Egypt.*

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## **I. Introduction**

Education is actually a key means of empowering women and is in itself a human right.

Educated girls lead better lives. Education is especially central to women's empowerment in so far as it enables women to become more productive both inside and outside the household.

Investments in women's general education, including literacy is considered one of the most important elements, complementary to income-generating activities that are considered essential for women's economic empowerment. Post-primary education has the greatest pay-off for women's empowerment in that it increases income earning opportunities and decision-making autonomy (Cheston and Kuhn 2002; Albee and 1994; UNFPA 2006).

The quality of education is not less important than getting education. Without education of comparable quality and content to that given to men, women are unable to escape low-quality employment to high-quality employment. For example: without access to information technology and the ability to use it, women will continue falling in low-quality employment.

Education is necessary to gain skills needed to compete in the labor market. Facilitating women's access to work begins with providing them with education of good quality.

With respect to Egypt, enhancing the competitiveness of women in the labor market is essential. This should raise many questions about education and women's competitiveness in the labor market. These questions include:

- ⇒ In Egypt, does increasing the educational level of women improve their economic participation and opportunity?
- ⇒ Does the type of education for young women affect their employability and the quality of their involvement?

### ***Objectives of the Study***

The objective of this study is to examine association between education and economic empowerment of women in Egypt through:

- Examining the effect of education on women's ability to get a wage work and the quality of work they get.
- Analyzing the variations of the methods women with different levels of education use to get a wage work and the obstacles that hinder their ability to have access to wage work and whether these obstacles are more related to the availability of education or to the type of education.
- Focusing on young women (15-29), this study assesses the association between the type of education and the different paths of girls to the labor market.
- Suggesting policy interventions needed to strengthen education as a path to enhancing women's economic participation and opportunity in Egypt.

### ***Methodology***

- Literature review of education as a path to women's economic empowerment.
- A comparative descriptive approach using **the Egypt Labor Market Panel Survey of 2006 (ELMPS 2006)** to analyze variations among women (15-64) with different levels of education and those among young women (15-29) with different types of education, concerning their presence and competitiveness in the labor market.

- The study uses the logistic regression to examine the effects of both getting education and the level of education on women (15-64) presence and competitiveness in the Egyptian labor market and for young women (15-29), to examine the effects of getting education, the level and the type of education.

**The study consists of four main parts in addition to the introduction.** The following part provides a conceptual framework for studying the effects of education on women's economic empowerment. It is followed by analyzing education as a path to labor for women in Egypt. Then the fourth part focuses on young educated women, analyzing the types of Education they get and their effect on their labor market pathways. Finally, the study ends up with policy implications regarding what is needed to strengthen education as a path for women's economic participation in Egypt.

## **II. Education and Women's Economic Empowerment - A Conceptual Framework**

According to the United Nations' Universal Declaration of Human Rights, access to basic education is a human right. Thus, education is an end in itself. In addition, education is an important instrument with which people can improve their lives and which helps empowering vulnerable groups. It is an instrument that has a significant impact on women's economic empowerment.

### ***II.1. Education for Women's Empowerment***

Education is one of the most important sources of women's empowerment. In addition to being one of the main five most important dimensions of female empowerment<sup>2</sup>, it plays a critical role in achieving the other key dimensions.

Concerning political empowerment, no doubt that educated women are better informed about their legal rights and how to exercise them and thus are more politically active and can participate equally in societal and political decision-making processes. Women's levels of education determine their chances of becoming parliamentarians (Moghadam 2003; Eckert et al. 2007; Morrison et al. 2004; Rihani et al. 2006).

With respect to women's health and well-being, education gives women the knowledge to demand and seek proper health care. Thus, it is evident from different studies that there is a negative correlation between female education and maternal mortality and a positive correlation between female education on one hand and women's life expectancy and family health on the other hand. Education here refers not just to getting education but to the level of education which is found to be more important; only at secondary or higher levels of schooling does education have a significant beneficial effect on women's health (McAlister and Baskett 2006; Task Force on Education 2005a; 2005b; Eckert et al. 2007).

Besides, education enhances women's well-being. It reduces violence against them, gives them a more autonomy in shaping their lives, improves their status within the family and gives them a greater voice in household decisions, including financial decisions (Lewis et al. 2008; Task Force on Education and Gender Equality 2005b; ICRW 2005; Malhotra and Mather 1997; Odutolu et al. 2003; UNDAW 2006; Aksornkool 1995; UNICEF 2005).

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<sup>2</sup> Economic participation, economic opportunity, political empowerment, educational attainment and health and well-being WEF (2005)

In addition, education is essential to sustain gains concerning women's empowerment for future generations, through its intergenerational effects. Mothers' education shows universally positive impacts on children's schooling. The effect is more pronounced for girls than for boys and is significantly stronger than the effect of fathers' education, particularly where girls' enrollment lags behind that of boys. This effect is stronger, the more educated a mother is. Besides, daughters of educated mothers are more likely to have higher levels of educational attainment, which comprises a "multiplier effect" (Lewis et al. 2008; Schultz 2002; Task Force on Education 2005b; Moghadam et al. 2003; Blumberg 2005; UNFPA 2005; UNDP 2003; Sweetman 2008; Care 2005). In many countries, each additional year of formal education completed by a mother translates into her children remaining in school for an additional one-third to one-half year<sup>3</sup>.

## ***II.2. Education - A Critical Path to Women's Economic Empowerment***

Focusing on Women's economic empowerment, it is found that of the five main dimensions of women's empowerment (WEF 2005), the first and the second dimensions are: first: the economic participation of women, second, the economic opportunity.

### ***II.2.1. Education- a path to Women's Economic Participation***

Economic participation of women refers to their presence in the workforce in quantitative terms. It concerns not only the actual numbers of women participating in the labor force, but also their remuneration on an equal basis (WEF 2005). Education is essential for women's economic participation, as it affects:

#### ***First: Female Labor Force Participation (FLFP)***

Controlling for other factors, higher educational levels increase the likelihood of women's labor force participation. Although a general expansion of education tends to lower the overall level of labor force participation because it rises the average age of labor force entry, education positively affects FLFP in the long run. The relationship between education and FLFP on an individual level is summarized by standing three hypotheses: the opportunity cost argument, the relative employment opportunity argument, and the aspiration argument. First, education gives people a positive incentive to seek employment, since education is an investment that is positively correlated with earnings' potential. Consequently, it raises the opportunity cost of economic inactivity. Second, women's rising educational level equips them, particularly younger women, with current educational qualifications that the changing economy demands. Improvements in women's access to employment expand choices, while education improves women's capabilities to take advantage of those choices. Third, educational levels determine income aspirations. More-educated women have higher income aspirations over their less-educated counterparts. They expect education to pay off through a high return in salary and job quality (Morrison et al. 2004; Psacharopoulos 1988; ICRW 2005; Mehra 1997; Nam 1991).

Education affects women's labor force participation, not only directly but also indirectly through its effects on women's household responsibilities.

The higher fertility reduces women's employment while there is a strong link between female education and lower fertility which is virtually universal (England et al. 2004; Murphy and Carr 2007; Rihani et al. 2006; Gupta and Malhotra 2006; Care 2005; Lewis and Lockheed 2008). A World Bank 100-country study found that for every four years of education that

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<sup>3</sup> WB –Girl's Education-<http://web.worldbank.org/wbsite/external/topics/exteducation>.

girls attain, fertility rates drop by roughly one birth (Rihani et al. 2006). This negative relationship is due to several effects of higher education levels, including that early marriage declines as girls gain an education and women's education results in lower infant and child mortality rates due to providing better care and nutrition for the children. It is estimated that an extra year of girls' education cuts infant mortality by 5-10% (Heckman 2008; Task Force on Education and Gender Equality 2005a; 2005b; Woodhall 1973; UNDP 2003; Lewis and Lockheed 2008; Rihani et al. 2006).

It is estimated that one extra year of education increases female labor force participation by three years (ILO 2004).

### ***Second: The Probability of Escaping Unemployment***

Education is seen as the most effective way to give girls access to the economic possibilities. More education is associated with lower unemployment. The most plausible reason for this relationship between unemployment rates and human capital is that the gap between marginal product when in work and the reservation wage is smaller for those with low levels of human capital. Human capital theory predicts higher unemployment rates for women than for men and, among women, higher unemployment rates for women who are likely to have accumulated less human capital (Azmat et al. 2006; GFW 2004).

In addition higher levels of education tend to lower labor market risks. The higher educated tend to face a more stable labor market (Obadic and Poric 2008; Walter and Xie 2008). They are more likely to keep their jobs and experience shorter unemployment spells.

This is found to be especially true for women. Education increases women's propensity to remain in the labor market. Although they may interrupt their working careers while they have young children, better educated women can pay for childcare and keep their careers (Woodhall 1973; UNIFEM 2005; ILO 2008b).

### ***Third: Strengthening Job Search Behavior***

Higher levels of education expand job search methods as it leads to more job search options, more efficient and better mobility prospects.

Job search methods have a significantly impact on the probability of being employed and mobility prospects. Expanding search options especially through formal methods is more important to women who usually find it more difficult to access employment and lack enough effective social contacts. Women's education has significant positive effects on job search, including:

- Increasing job search intensity: the level of education is positively related to job search intention among women. Besides, the more educated use a more pro-active approach to job search. Unemployment deprives skilled individuals of their high expected returns. Therefore, the higher educated have a bigger incentive to adopt a greater search effort (Hoofst et al. 2005; Stevenson 2008; Boheim et al. 2002).

- Expanding the labor market where they search: The highly educated may have access to a geographically larger labor market and respond to advertisements placed in the national or international media (Boheim et al. 2002).

- Using formal methods: The higher educated find jobs relatively often along formal channels (Koning et al. 1997; Boheim et al. 2002). This is very important for women who usually lack good effective social networks. For instance, evidence from ILO School to Work Transition surveys (ILO 2008b) shows that in a number of countries, young women have a more difficult transition to work than young men. One of the main reasons explaining this

difficult transition is that they have more limited access to information channels than young men.

- Using more efficient new methods: Higher educated women have more opportunity to use the internet in job search which are more easily to use, efficient, require no social contacts, expand employment opportunities and improve mobility prospects.

Internet job search rises with education (Kuhn and Skuterud 2000). By being available to every one at low cost, it is more helpful to women.

In addition, the Internet is perceived to have made job search more efficient for workers. It reduces the cost of on-the-job search (Márquez et al. 2004; Stevenson 2008; Patrinos 2007; Kuhn and Skuterud 2004).

### ***II.2.2. Education and Women's Competitiveness***

Education is also a powerful path to enhancing women's economic opportunity. The economic opportunity concerns the quality of women's economic involvement, beyond their mere presence as workers - wages, upper mobility, representation in managerial and scientific jobs ...etc. - (WEF 2005).

Equal access to education and equal opportunity in gaining the skills are necessary for women to compete in the labor market. The better educated is a woman, the more able and willing she is to compete with men in the labor market. Gains in women's education lead to increases in their productivity. This in turn reduces discrimination against them. This is obviously evident in today's labor markets, where jobs are becoming more and more demanding of skills and as a result workers need to upgrade their skills or risk losing out in the competition for jobs. The reason why many of the unemployed might be considered "unemployable in a modern economy" is their comparatively low level of education. In recent decades, the rise in women's employment has been greatest among the well educated (ILO 2004; 2008b; 2008c; Bisnath 2001; Heckman 2008; Zambrano 2005; Obadic and Poric 2008; Dougherty 2003; England et al. 2004).

Strengthening women's competitiveness in the labor market yields high returns for women's pathways to the labor market in terms of:

#### ***First: More ability to get a wage work and escape vulnerable employment<sup>4</sup>***

Education improves women's chances in labor markets. Education here refers not only to getting education; the most important is the level of education. Post-primary education has the greatest pay-off for women's empowerment in that it increases income earning opportunities (ILO 2008a; UNFPA 2005). Compared to women without any formal education, those with middle school education and above are more likely to hold paid jobs. Empirical evidence from Latin America, Asia, and Africa shows that better schooling for girls increases female entry into formal or wage employment (Gupta and Malhotra 2006; Nam 1991; Glick and Sahn 1997; Morrison et al. 2004; Task Force on Education and Gender Equality 2005b). In addition, it is found that higher levels of education increase the gains from formal labor force participation more for women than for men.

#### ***Second: Escaping Low Quality Jobs***

Education is the single biggest correlate with high job quality. Education gaps between men and women lead women to face discrimination in attaining decent jobs based not just on their sex, but also on their relative lack of skills. While postsecondary skills do not guarantee an

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<sup>4</sup> Vulnerable employment refers to own-account workers and contributing family workers (ILO 2008a).

individual access to good jobs, the lack of such skills increasingly condemns workers to bad jobs (ILO 2008c; 2007; UN Commission for Social Development 2008; Mehra 1997; Basch 2007; ILO 2008b).

Women with higher education are more likely to work in the formal sector versus being self-employed or engaging in informal work and are more likely to get high quality jobs with higher fringe benefits and better working conditions. For instance, in India and Thailand, women with post-secondary education were about 25% more likely to be formally employed (ICRW 2005; Patrinos 2007; Buvinic et al. 2008; Morrison et al. 2004; ILO 2007). Higher education levels are essential for women to get high quality jobs.

Besides, education has a strong bearing on individual earnings as higher human capital increases the wage rate (Walter and Xie 2008; Koning et al. 1997). The rate of return to education is higher on women's education than on men's. Returns to secondary education in particular are higher for women (Psacharopoulos 1988; Rihani et al. 2006).

High school dropouts tend to experience both lower wage growth within jobs and lower wage growth in starting wages across jobs than do females with more education (Glick and Sahn 1997; Johnson et al. 2003). Different empirical studies estimated returns to women's education in terms of wage growth. World Bank studies indicate that an extra year of schooling beyond the average boosts girls' eventual wages by 10-20% (Patrinos 2007). Another study has found returns to female secondary education in the 15–25% range (Rihani et al. 2006). Comparing returns to women's education with men's education, one study (Patrinos 2007) estimates that returns to education for women are higher than for men (9.8% vis-à-vis 8.7%). Another study (Dougherty 2003) estimates that the rate of return to schooling appears to be nearly two percentage points greater for females than for males.

This is especially true in developing countries where returns to education are generally higher than in industrial countries (11% vis-à-vis 7%) (Patrinos 2007). Returns to women's education in developing countries are largely positive and in some cases exceed those observed in developed countries. Even in the agricultural sector, where most farmers in developing countries are women, education raises productivity, and the returns to women's education exceed returns to men's education (Lewis and Lockheed 2008). In East Asian economies, women's relative gains in education and experience explain much of the gain that women experienced after 1990 in their relative wages (Zveglic et al. 2004).

The field of study also plays a critical role in determining returns and the gender pay gap. A study of the gender pay gap in some Asian economies (Son 2007) found that the unexplained gender pay gap may be attributed to the fact that men and women make different education choices. They study different subjects, and boys' chosen subjects often lead to more lucrative careers.

High-educated women face less market discrimination than those with less education. Thus, the pay gap in one country may be less than in another owing to women's higher relative levels of education (Woodhall 1973; Blau et al. 1996; Glick and Sahn 1997; OECD 2004; Dougherty 2003; ILO 2004; Joshi 2002).

### ***Third: Overcoming Occupational Segregation***

Education is a critical path to gender equality in the labor market. In addition to the previously mentioned effects, women's education reduces occupational segregation.

Occupational segregation by gender may exert a negative influence on male-female wage differentials and on the possibility of promotion in careers followed by women. Economic theory suggests many explanations of occupational segregation, which can be appended to the demand and supply sides. On the demand side, the employers' perception that women are on average less qualified than men may contribute to segregation. Different levels of education result in vertical segregation<sup>5</sup>. This is expected, educational requirements of clerical occupations for instance are much lower than those of professionals. A study analyzing the recent patterns of occupational segregation by gender in the EU countries vis-à-vis the US (Dolado et al. 2002) found that gender segregation had been declining across age cohorts in the case of female graduates and had remained steady for those with lower educational levels. Part-time jobs which tend to be typically "female" occupations are found to be negatively correlated with education. Different studies in developed, developing and transition countries reach the same result that education plays a central role in determining segregation (Fields et al. 1991; Son 2007; Bjelokosić 2007). Analyzing variation in the economic role of women in 65 developing countries (including Egypt), access to education was found to be a key determinant of women's ability to join the skilled labor force as technicians (Morrisson et al. 2004).

Thus, education is essential to overcome occupational segregation. This in turn leads to improve women's labor market outcomes. Using the human capital model, a decline in vertical segregation is predicted as women reach higher levels of educational attainment over time (Fortin et al. 2002; Koning et al. 1997; UNIFEM 2005).

### ***II.2.3. Education Level, Quality and Women's Economic Empowerment***

If the end goal is to empower women, getting education is a necessary but not a sufficient condition. The effect of education on women's economic empowerment is determined mainly by the level and quality of education they get.

#### ***A. Education Level and Women's Economic Empowerment***

Women's education level affects both women's economic participation and opportunity.

First: The level of education affects women's economic participation through determining both the likelihood of women's labor force participation and their competitiveness in the labor market:

Secondary and higher levels of education provide the highest returns for women's empowerment in terms of employment opportunities (Govinda 2008).

In addition, for women to be more competitive, they need secondary education and training in skills that are appropriate for the market place. Being literate or having only primary education is not enough to enhance productivity or obtain better-paying jobs. Secondary or higher levels of education are needed to improve options and outcomes for women. That said, for secondary and higher levels of education to have the greatest payoff (ICRW 2005; UNIFEM 2004; Gupta and Malhotra 2006).

Second: The level of education determines women's economic opportunity. The quality of jobs and wage returns women manage to get depends mainly on their level of education. The education level has a significant impact on women's opportunity more than it has for men:

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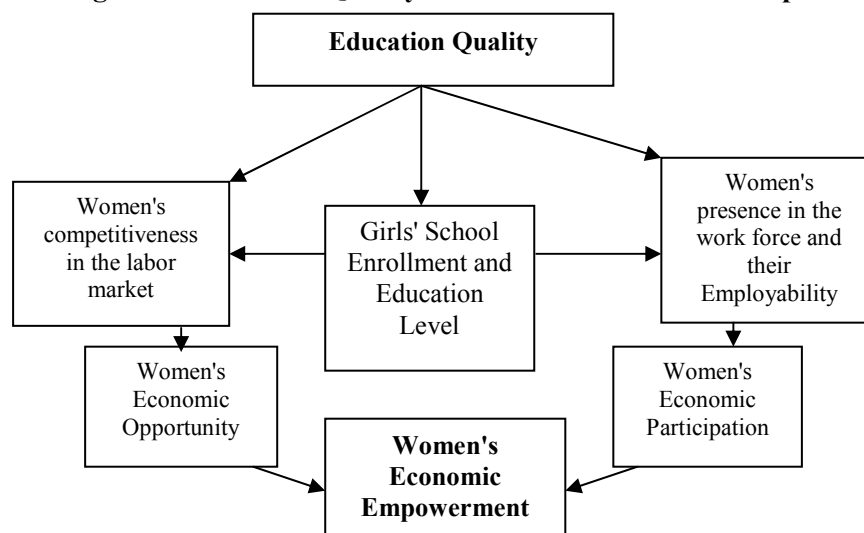
<sup>5</sup> Segregation along hierarchical levels of work.

One study (Task Force on Education and Gender Equality 2005b) estimates that women receive only slightly higher returns to their investment in education (10%) than men (9%). Returns vary, however, by the level of education. Women experience higher returns to secondary education (18%) than do men (14%), but lower returns (13%) to primary education than do men (20%). Women have higher rates of return than men to post-secondary education (Boothby et al. 2002). Another study (ICRW 2005) found that in India, the wage benefit for women with secondary education was double that for men. Lower returns to primary education for women in developing countries are actually a major policy concern. These results are consistent with results of studies in developed countries. The rate of return to university education is found to be higher for women than for men in most OECD countries (Ono 2001). The benefit of a university education on hourly wages is more apparent for women (Leary et al. 2004). Thus, women's higher education is essential to reduce the gender pay gap.

### ***B. Education Quality and Women's Economic Empowerment***

Education quality is determinate for women's economic empowerment. It affects both economic participation and opportunity, directly and indirectly (figure 1).

**Figure 1: Education Quality and Women's Economic Empowerment**



Education quality indirectly affects women's economic participation and opportunity through affecting the likelihood of enrolment and the education level.

Empirical evidence suggests that standard aspects of school quality have a stronger impact on girls' education than on boys' education. On one hand, the evidence suggests that quality is an important demand factor. When education costs too much and when good quality education is hard to come by, parents, especially those in poverty, may feel that the future returns may not justify the present costs. However, girls' enrollment is more sensitive than that of boys to school quality. Evidence from Bangladesh, Kenya and Pakistan indicates that girls' enrolment is more sensitive than boys' to school quality and to specific delivery attributes, such as the presence of female teachers and sex-segregated schools and facilities, and safe transport to and from school (Lewis et al. 2008; Govinda 2008; Bergmann 1996; Abbas 2007).

On the other hand, access to high-quality education increases the likelihood of achieving higher levels of education. It influences earnings by affecting college choice behavior. High



quality high schools increase the probability of college attendance, which generates a persistent wage gain relative to wages that an individual could expect to earn with no college (Task Force on Education 2005a; Strayer 2002).

In addition, education quality directly affects both women's economic participation and opportunity through affecting skills they acquire:

Low quality primary education means students completing primary education may not be fully literate or able to contribute economically to the fullest of their potential. For instance, while access to education has climbed slowly in African countries, standardized tests show that many do not learn very much. The key lies in the quality of education provided. Thus, general or vocational training that is poor fails to liberate women economically (ICRW 2005; Rihani et al. 2006; UNICEF 2003).

Thus, education quality affects also women's labor market outcomes:

Job quality: Without quality education, chances of getting a decent job are low (ILO 2008b). In addition, variations in types of human capital are as important as variations in quantity to explain wage differentials (Pouliakas et al. 2008; Strayer 2002).

Occupational segregation: indirect discrimination against girls in education results in stereotyping them as less interested or capable in certain subjects. Besides, school quality affects a high school student's choice of college (ILO 2008b; Strayer 2002). College choice, in turn, affects post-school occupational status.

Finally, we may conclude that *education is a critical path to achieving women's economic empowerment through the labor market*. However, there is also recognition that education is an insufficient condition for women's empowerment. The impact of women's education is greater in settings that are already relatively egalitarian. Education alone may not be transformative in the absence of other normative shifts and changed power relations. In such settings, it takes more than education to reach thresholds of change (Task Force on Education and Gender Equality 2005b; UNFPA 2005; ILO 2008b). However, women's economic empowerment can not be achieved without ensuring the access of girls to education, not only to basic education but also to higher levels of education and improving quality of education provided to them. These changes are necessary conditions for women's economic empowerment.

### **III. Education as a path to labor and women's economic empowerment in Egypt**

As previously mentioned, it is assumed that education is a powerful path to labor and thus to enhance women's economic participation and opportunity. **The study uses the ELMPS 06** to examine education as a path for women to labor and thus to enhancing their economic participation and opportunity in Egypt, through examining:

#### ***III-1. Effects of Female Education on Women's Presence in the workforce***

Education affects Women's presence in the Egyptian labor market through the following channels:

### **A. Effects of Female Education on Labor Force Participation**

There is a significant difference between male and female labor force participation in Egypt. Among those aged (15 – 64 years), it is estimated using the ELMPS 06 that the male labor force participation rate is 2.8 times the female participation rate.

However, significant differences exist in participation rates of women with different educational levels. The labor force participation rates of those with no education or less than secondary are below the average female participation rate contrary to those with secondary and university education. The female labor force participation rate rises with education; it is estimated using the ELMPS 06 to rise among university graduates to 2.3 times the average female labor force participation rate. Thus the gender gap in the participation rate decreases among university graduates to less than 1.5, comparing to 4.3, 6.3 and 2.2 among those with no education, education less than secondary and those with secondary education respectively.

Estimating the effect of the educational level on female labor force participation rate, along with other social and economic factors that affect the participation rate, including: age, being head of the family, marital status, urban/rural and the wealth index\*, using binary logistic regression, where the reference category is female university graduates, it is found that lower educational levels have a highly significant negative effect (significant at 0.01) on the participation rate (Appendix B). The odds of participating in the labor force for females with no education, less than secondary education and with secondary education and above (below university) are *ceteris paribus* only 0.08, 0.06 and 0.34 times as likely as for female university graduates.

### **B. Effects of Female Education on Job Search Behavior**

Using the ELMPS 06, it is found that among those aged (15 – 64 years), the male job search propensity is 1.1 times that of female and the male job search intensity is 1.3 times that of female.

However, significant differences exist in job search behavior of women with different educational levels. Higher levels of education results in more active female job search behavior:

⇒ The job search propensity of those with no education or with education less than secondary is obviously below the average female job search propensity, contrary to those with secondary and university education. The job search propensity rises with education; it is estimated using the ELMPS 06 to rise among female university graduates to more than double the propensity among those with no education. The job search propensity is almost the same for male and female university graduates, while the male/female job search propensity is 1.6, 1.4 and 1.1 among those with no education, education less than secondary and those with secondary education respectively.

Estimating the effect of the educational level on female job search propensity along with other social and economic factors that affect job search propensity, including: age, being head of the family, marital status, urban/rural and the wealth index, using binary logistic regression, where the reference category is female university graduates, it is found that lower educational levels have a highly significant negative effect (significant at 0.01) on the job search propensity (Appendix B). The odds of searching for a job for women with no education, less than secondary education and

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\* A composite index constructed using the ELMPS 06 data. It is constructed of several indicators measuring the economic level.

with secondary education and above (below university) are *ceteris paribus* only 0.007, 0.03 and 0.7 times as likely as for female university graduates.

- ⇒ In addition the higher the female educational level, the higher the female job search intensity is. It is estimated using the ELMPS 06 that the job search intensity is 3.2 among female university graduates; that is 3.5 times the job search intensity among those with no education. The higher the educational level, the lower the gender gap in job search intensity is. The male/ female job search intensity declines from 2.8 among those with no education to 1.4 among those with less than secondary education and to 1.3 among those with secondary and university education.
- ⇒ Analyzing job search methods used by women with different education levels (Appendix a- table 1) reveals that education strengthens women economic participation through:
  - Increasing job search opportunities. While those women with no education and with less than secondary education uses 4 and 6 job search methods respectively, those with secondary and university education are using almost all the job search methods available.
  - Informal methods are more important for the lower educated while formal methods (private and public), especially searching through the government sector, are used more by the higher educated, providing them better job opportunities.
  - Women with no education and those with education less than secondary depend on relatives and friends more than other job search methods. Women with secondary education depend mainly on the government, in spite of the fact that the government is not any more the main employer and the public job guarantee program has actually come to end for more than a decade. This reflects the very low competitiveness of those with secondary and vocational education. For university graduates, the most important two methods are job advertisements in the news papers and again the government. Educated women still depend heavily on the government in their job search. This is negatively affecting their employability as the Egyptian economy transforms into a market economy. However, the higher educated is better in terms of using a wide variety of methods.

### ***C. Effects of Female Education on Employability***

It is estimated using the ELMPS 06 that the female unemployment rate is almost fourfold (3.9 times) higher than the male unemployment rate.

The higher the educational level, the higher the unemployment rate is for both men and women. However, it is worth mentioning that:

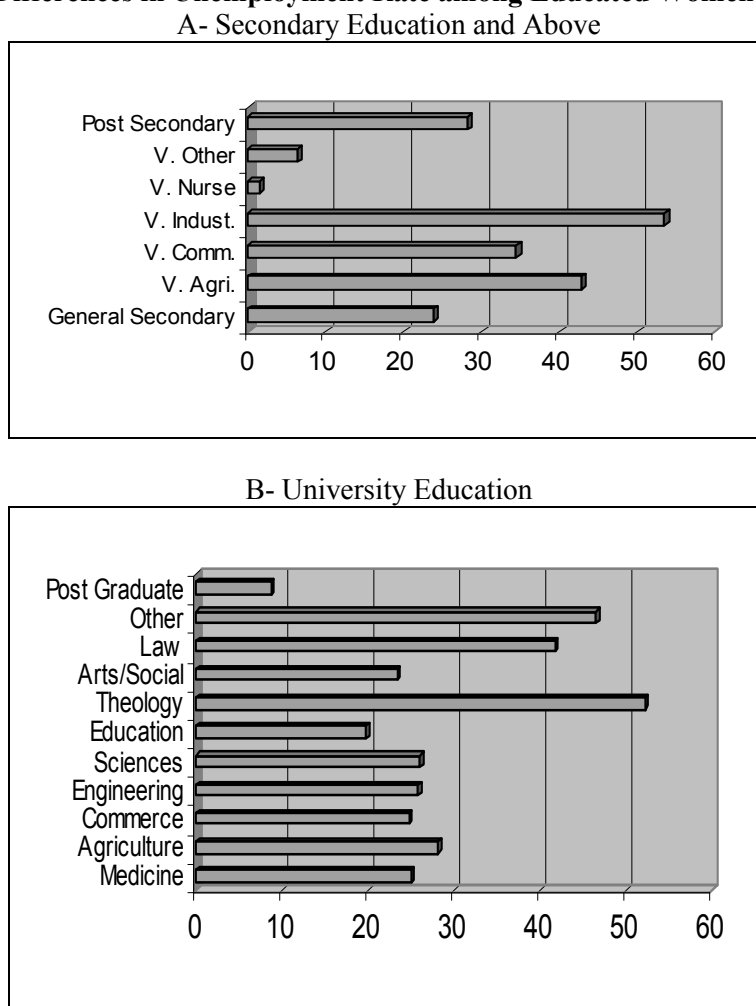
- **First:** on contrary to male unemployment rate, the female unemployment rate among university graduates is lower than among those with secondary education and above, which is the highest unemployment rate (25.6% vis-à-vis 34.6%). **Among educated women, the higher educated is less likely to be unemployed. It is obvious that attaining higher levels of education is more important to women than to men to escape unemployment.**
- **Second:** Although the unemployment rate is higher among the higher educated especially those with secondary education, **significant differences exist in unemployment rates of educated women according to the field of study reflecting that the employability problem is more related to the field of study than to the educational level (figure 2):**

With respect to vocational education, some fields of study yield high returns to female employability; the unemployment rate among those graduated from vocational nursing schools is very low (1.4%) while it increases to more than half of those who

graduated from industrial-vocational secondary schools, and to more than 2/5 of those who graduated from agricultural-vocational secondary schools. This reflects differences in the demand for skills acquired through these different types of education.

- With respect to female university graduates, the unemployment rate is low among education graduates and also among arts/social sciences graduates. Those two groups usually get jobs in the education sector. On the contrary, the unemployment rate is very high among law graduates. It is lower among those who did postgraduate studies than among university graduates. This leads us again to the conclusion that **among educated women, the higher educated is less likely to be unemployed.**

**Figure (2): Differences in Unemployment Rate among Educated Women by Field of Study**



Source: Unemployment rates are calculated using ELMPS 06.

- **Third:** in spite of the fact that **the lower educated women "no education or less than secondary education" are more likely to escape unemployment, they are more likely to be underemployed** than higher educated women.

The female underemployment rate is extremely high; it is estimated using the ELMPS 06 to be 2.6 times higher than the male underemployment rate. However, higher educated women are more likely to escape underemployment. The female/male underemployment rate is only 1.7 among university graduates comparing to 3.3 among those with no education.

Estimating the effect of the female educational levels on the female unemployment and underemployment rate using binary logistic regression, it is found that while lower

educational levels (except for secondary education and above) have a highly significant negative effect (significant at 0.01) on the unemployment rate, they have a significant positive effect on underemployment (Appendix B). The odds of being underemployed for females with no education and with less than secondary education are *ceteris paribus* 2.4 and 1.9 times higher than for female university graduates.

Thus, we may conclude that regarding the returns of female education to women (15-64) in terms of presence in the workforce, it is found that higher education levels result in:

- a) Higher labor force participation rate and more active job search behavior.
- b) Lower gender gap in labor force participation rate, job search propensity and job search intensity.
- c) Although the unemployment rate is higher among educated women, it is found that among educated women, the higher educated are less likely to be unemployed. The field of study significantly affects employability of the higher educated. Significant differences exist in unemployment rates among female graduates from different fields of study. Besides, although the lower educated females are more likely to escape unemployment, they are more likely to be underemployed than the higher educated ones.

### ***III-2. Effects of Female Education on Female Labor Force Competitiveness***

Education is the most powerful path for women to acquire skills needed to compete in the labor market, to be able to escape vulnerable employment, get better quality jobs and overcome occupational segregation. Achieving these goals depends on acquiring skills needed to compete in the labor market.

#### ***III-2-1. Education and Acquiring Skills Needed to Compete for Work***

Females are less likely than males to get jobs that require skills (68.4% of female workforce vis-à-vis 71% of male workforce) (Appendix A, table 2).

The higher educated females are more likely to get jobs that require specific skills. Besides, education is far more important for women than for men to work in jobs that require specific skills. The percentage of women who have jobs requiring specific skills is higher than the percentage of men who have such jobs only among university graduates (91.1% vis-à-vis 82.2%) (Appendix A, table 2).

Examining the effect of the level of education on the ability to compete in the labor market and get a job that requires specific skills using binary logistic regression, it is found that lower education levels have a highly significant negative effect (significant at 0.01) on the ability to compete in the labor market and get a job that requires specific skills (Appendix B). The odds of getting such jobs for females with no education, with less than secondary education and with secondary education are *ceteris paribus* only 0.13, 0.2, 0.2 times as likely as female university graduates.

Education is essential for women to acquire skills of using new technologies (such as the computers and the internet) that are now highly required in different jobs in different sectors. It is estimated using the ELMPS 06 that the percentage of female workers who can use such new technologies at work is only 4.4%. However, the percentage of females with secondary education who can use such new technologies at work is more than three times higher than the average percentage (15.8%). The percentage of female university graduates who can use such new technologies at work is more than two times higher than the latter percentage. In



64) are wage workers while more than one third of them fall in vulnerable employment compared with 67.3% and only 16.7% of men, respectively.

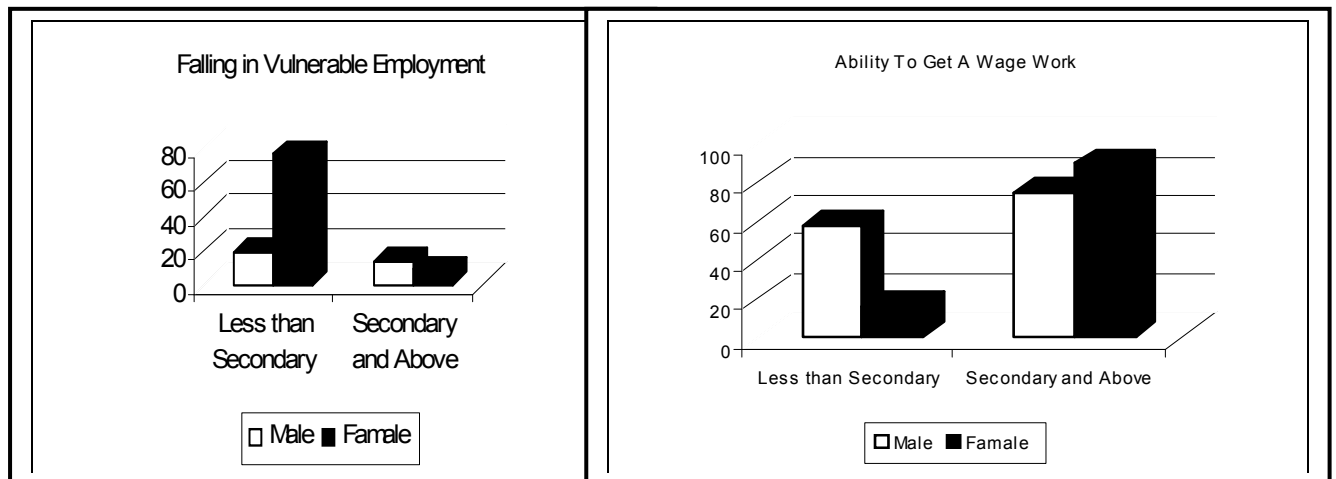
However, an analysis of differences among women with different education levels in the ability to escape vulnerable employment reveals that (Appendix A- table 2):

-The higher the education level of men or women, the higher the incidence of getting a wage work and escaping vulnerable employment is. The percentage of wage workers increases steadily with education (from 12.7% of uneducated females to 79.1% of female university graduates).

- **Education is more important to women than to men to escape vulnerable employment.** While the percentage of wage workers among women with secondary education and above is more than fivefold higher than the same percentage among those with no education or with less than secondary education, the same ratio among men is only 1.3. On the contrary, the share of women in vulnerable employment among women with secondary education and above is around 0.12 the percentage among those with no education or with education less than secondary, the same ratio among men is 0.7.

Thus, **education tends to reduce the gender gap in the Egyptian labor market in terms of the ability to get a wage work and escape vulnerable employment.** The percentage of wage workers among men with less than secondary education is more than threefold higher than the percentage among women, while the percentage of those in vulnerable employment among women with less than secondary education is almost fourfold higher than the percentage among men. This gap reverses among those with secondary and university education (fig. 4).

**Figure 4: Education and the Ability to Escape Vulnerable Employment (15-64) %**



\* Pearson Chi2 is significant at 0.05.

Examining the effect of female education level on the ability to get a wage work and escape vulnerable employment (Appendix B), it is found that lower education levels have a highly significant negative effect (significant at 0.01). The odds of falling in vulnerable employment for females with no education, less than secondary education and with secondary education are *ceteris paribus* 131.7, 55.6, 6 times higher than for female university graduates. On the contrary, the odds of getting a paid work for the three groups respectively are *ceteris paribus* only 0.009, 0.02 and 0.25 times as likely as for female university graduates.

### III-2-3. Education and Job Quality

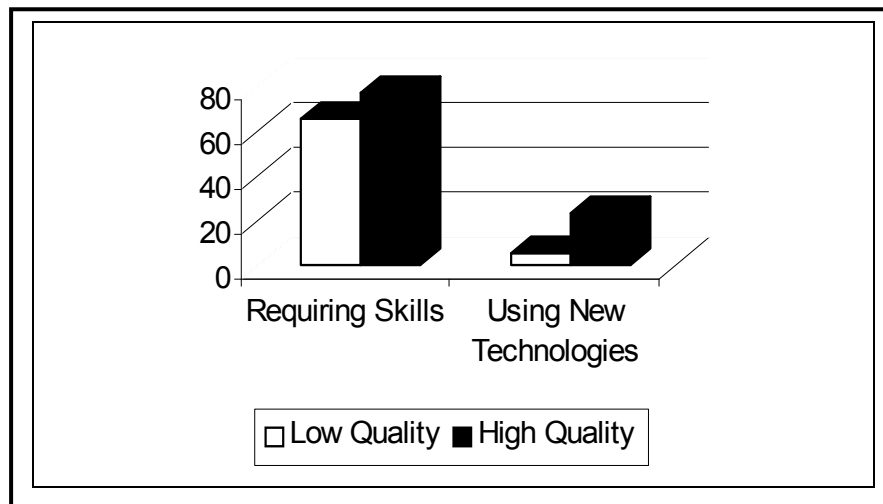
Getting a job is important to women's economic empowerment. However, the quality of work is more important. The study assesses job quality, considering three main dimensions, using 4 main indicators:

- **Job security**; using availability of a legal work contract as an indicator of job security.
- **Social protection**; using availability of both social security and health insurance as indicators of social protection.
- **Management and organization**; using trade union membership as an indicator.

The study constructed a job-quality index. It is a composite index constructed using the four previous indicators. Depending on this index, jobs are classified into two main categories: low and high quality jobs.

Comparing skills requirements between low and high quality jobs (fig. 5), it is obvious that high quality jobs require higher skills.

**Figure 5: Skills Requirements- High Quality Compared with Low Quality Jobs**



\* Pearson Chi2 is significant at 0.05.

Thus, higher educated females have a better opportunity to get good quality jobs (Appendix A, table 2). The percentage of female university graduates who have a high quality job is 78.7% compared with only 2.9% of uneducated females. The average value of the job quality index among the first group is 27 times higher than among the latter one. Education is more important to women than men to get a good quality job. The male/female job-quality index ratio declines from 5.2 and 1.8 among those with no education and with less than secondary education to 0.6 and 0.9 among those with secondary and university education respectively. Again, the gender gap reverses among the high educated.

Examining the effect of female education on the ability to get a high quality job (Appendix B), it is found that lower education levels have a highly significant negative effect (significant at 0.01). The odds of getting a high quality job for females with no education, less than secondary education and with secondary education are *ceteris paribus* only 0.004, 0.029, 0.52 times as likely as for female university graduates.



### III-2-4. Education and Workforce Distribution among Sectors

Good quality jobs are not equally distributed among sectors. As good quality jobs require higher skills, the education level determines labor market pathways.

#### **First: Government or Private?**

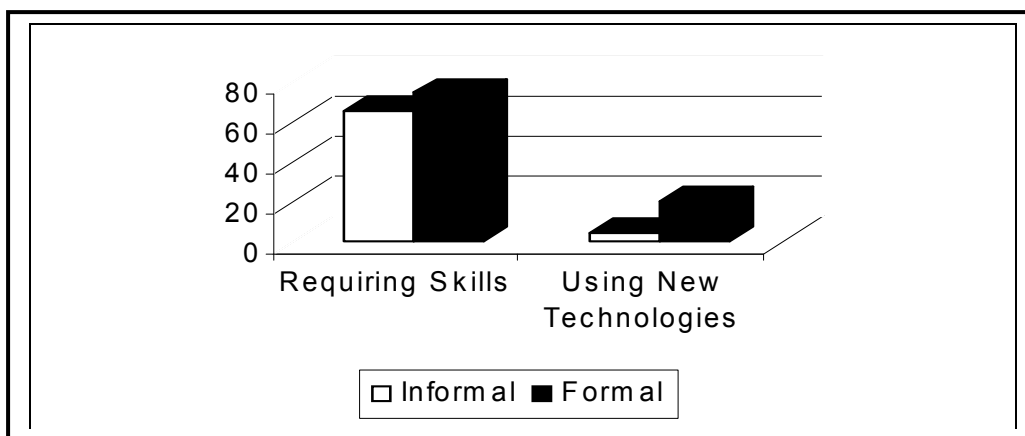
The majority of high quality jobs exist in the government and public sector (85.4%). Females consider working in the government and public sector a better choice. Higher educated females are more able to get a job in the government or in the public sector.

Examining the effect of female education level on the ability to get a job in the government and the public sector (Appendix B), it is found that lower education levels have a highly significant effect (significant at 0.01). The odds of getting a job in the government and the public sector for females with no education, less than secondary education and with secondary education are *ceteris paribus* only 0.004, 0.02, 0.5 times as likely as for female university graduates. On the contrary, the odds of working in the private sector for females with no education, less than secondary education and with secondary education are *ceteris paribus* 289.1, 52.5, 2 times higher than for female university graduates.

#### **Second: Formal or Informal?**

Almost all high quality jobs exist in the formal sector (99.9%). Skills requirements are higher in the formal than in the informal sector (fig. 6). Thus, higher educated females are more able to escape working in the informal sector and are more likely to find work in the formal sector.

**Figure 6: Skill Requirements- the Formal Sector compared with the Informal Sector**



\* Pearson Chi2 is significant at 0.05.

Examining the effect of female education level on the incidence of working in the informal sector (Appendix B), it is found that the education level has a highly significant effect (significant at 0.01). The odds of working in the informal sector for females with no education, less than secondary education and with secondary education are *ceteris paribus* only 43.8, 11.9, 2.7 times higher than for female university graduates.

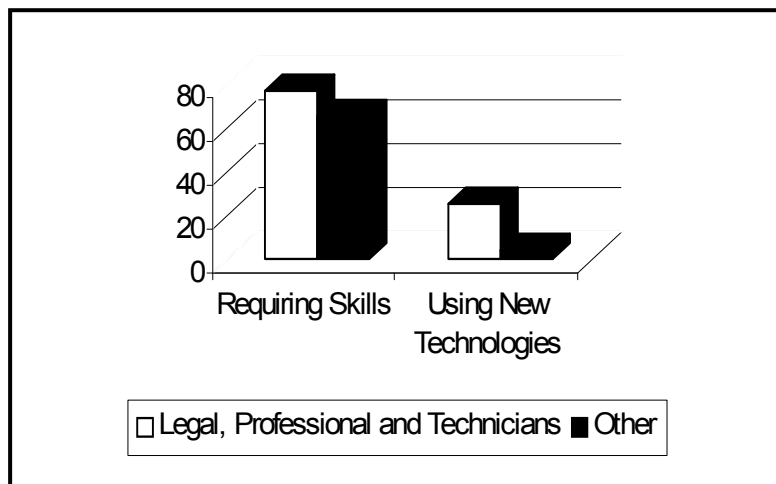
Women need higher education more than men to escape working in the informal sector. While the percentage of those working in the informal sector among females with no education and with less than secondary education is 1.2 and 1.1 times higher than the percentage among men, it is only 0.5 times among those with secondary or university education (Appendix A-Table 2). Again, the gender gap reverses among the higher educated workforce.

### III-2-5. Education and Overcoming Occupational Segregation

In the Egyptian labor market, there is an obvious occupational segregation against women (Appendix A-Table 3). While women are more represented than men in certain occupation, including agriculture workers and clerks, they are less represented in legal, administrative and managerial occupations. In spite of the fact that women are also more represented in professional occupations, they are mainly concentrated in the education sector (65.6% of women compared with 44% of men in professional occupations - calculated using the ELMPS 06).

As legal, administrative, managerial, professional, technician occupations require higher skills (fig. 7), female education helps reducing occupational segregation. Higher levels of female education result in a significant increase in women's representation within legal, administrative, managerial, professional, technician occupations and reduce their representation among clerical, services, sales, agricultural, handicrafts, production and unskilled workers (Appendix A-Table 4).

**Figure 7: Differences in Skills Requirements among Occupations**

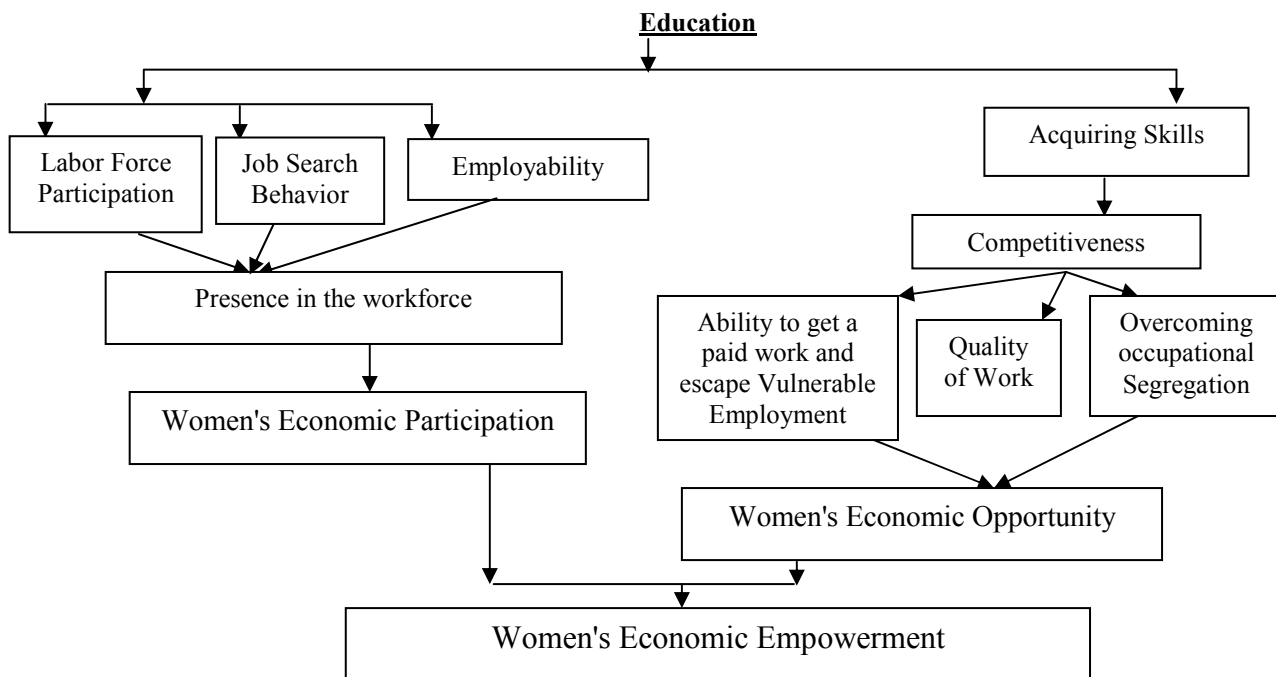


\* Pearson Chi2 is significant at 0.05.

Examining the effect of female education level on female representation in legal, administrative, managerial, professional, technician occupations (Appendix B), it is found that lower education levels have a highly significant effect (significant at 0.01). The odds of being represented within previously mentioned occupations for females with no education, less than secondary education and with secondary education are *ceteris paribus* only 0.007, 0.016 and 0.108 times as likely as for female university graduates.

Thus, we may conclude that returns to female education in terms of competitiveness are found to be very high and significant. The previously mentioned effects of female education on female presence in the workforce and competitiveness may be summarized as follows (fig. 8).

**Figure (8): Female Education as a path to labor and Women's Economic Empowerment in Egypt**



#### IV. Type of Education and Young Educated\* Women's Labor Market Pathways

Young women are the most vulnerable group in the Egyptian labor market, considering changes in the Egyptian economy during the last two decades. The most severe effects of ending the public employment guarantee scheme were borne by young women, especially young educated women. This raises concerns about female education level and also about the type of education young educated women get and differences in education quality among different types of education. Improving young women's skills and thus their competitiveness is essential now more than ever to enhance women's economic participation and opportunity.

##### IV-1. Types of Education and Education Quality

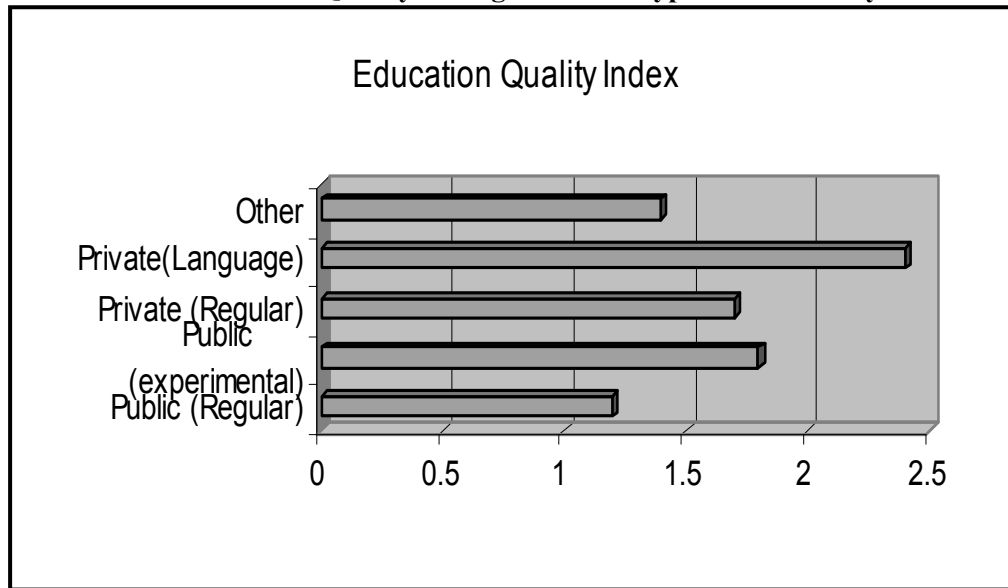
To measure school quality, there are three major dimensions (Lloyd et al. 2001): (1) time available for learning during the school day (“time to learn”); (2) material inputs, and (3) attributes of the school and classroom environment such as orderliness.

The study used data available on these three main dimensions in the ELMPS 06 to construct a composite index to measure education quality. The value of this index varies from zero to 3. Comparing the average value of the education quality index in different types of secondary education schools (fig. 9), it is found that it reaches its highest level in private language schools followed by public experimental schools, then regular private schools, other schools and falls to its lowest in regular public schools.

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\* with secondary education and university graduates.

**Figure 9**  
**Differences in Education Quality among Different Types of Secondary Schools**



**IV-2. Types of Education, Education Quality and Competitiveness**

Education quality affects young educated women's competitiveness in the Egyptian labor market through two main channels:

**A. The ability to attain higher levels of education**

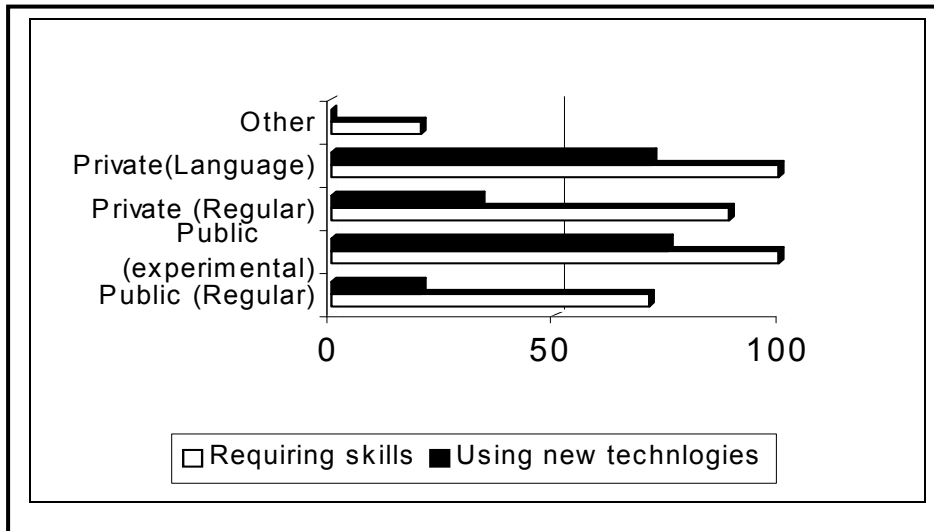
Depending on the education quality index, schools have been divided into two categories: low and high quality schools. Comparing the percentage of young female university graduates among low and high quality schools female graduates, it is found that it is higher among high quality schools graduates (55.2% compared with 44.8%).

High quality schools are unequally represented among different types of schools. Thus, there exist significant differences in the opportunity of getting a university degree among female graduates of different types of schools (Appendix A- table 5).

**B. Acquiring skills required in the labor market**

Better quality education results in higher skills that positively affect competitiveness in the labor market. Among young educated women, all private language and public experimental secondary schools graduates work in jobs that require specific skills compared with 88.9% of regular private schools graduates, 70.8% of regular public schools graduates and 20% of other schools graduates. Besides, there exist significant differences in using new technologies at work among graduates of different types of schools (fig. 10).

**Figure 10: Differences in Job Skills among Female Graduates of Different Types of Secondary Schools**



\* Pearson Chi2 is significant at 0.05.

In addition, private and public experimental schools graduates are more likely to acquire their skills through the regular education system (87.5% and 75%) than regular public schools graduates (70.5%) (Appendix A- table 5).

Examining the effect of school quality on job skills (Appendix B), it is found that low quality of education has a significant negative effect. The odds of getting a job that requires specific skills for female graduates of low quality schools are *ceteris paribus* only 0.552 times as likely as for female graduates of high quality schools.

### ***IV-3. Types of Education, Education Quality and Labor Market Outcomes***

The type of secondary education affects young educated women's labor market outcomes through the previously mentioned two channels.

#### ***A. Employability***

The unemployment rate for the young educated females is 52.4%. However, it is only 12.5% among private language schools graduates and 20% among public experimental schools graduates. The education quality index reaches its highest level in these two types of schools. On the other hand, the unemployment rate is 43.8% and 52.4% among regular public and private schools graduates (Appendix A-table 6).

#### ***B. The ability to escape vulnerable employment***

While 15.1% of young educated female workforce is in vulnerable employment, none of public experimental or private schools graduates are in vulnerable employment. On the contrary, while 40.2% of young educated female workforce manages to get a paid job, the percentage is at least two times higher among graduates of public experimental and private language schools (Appendix A-table 6).

#### ***C. Overcoming occupational segregation***

While 56.2% of young educated female workforce is represented within legal, professional and technicians occupations, there exist significant differences among graduates of different types of schools. A little more than half of regular public schools graduates are represented

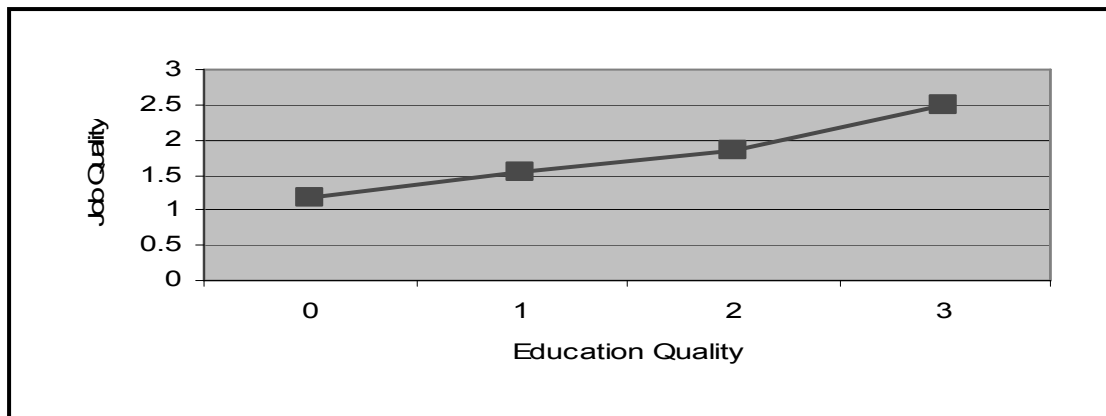
within these occupations compared with 100%, 85.7% and 77.8% of graduates of public experimental, private language and regular private schools respectively (Appendix A-table 6).

**D. Getting good quality jobs**

Examining the effect of education quality on job quality among the young educated women using binary logistic regression, it is found that low quality of education has a significant negative effect on job quality (Appendix B). The odds of getting a high quality job for female graduates of low quality schools are *ceteris paribus* only 0.68 times as likely as for female graduates of high quality schools.

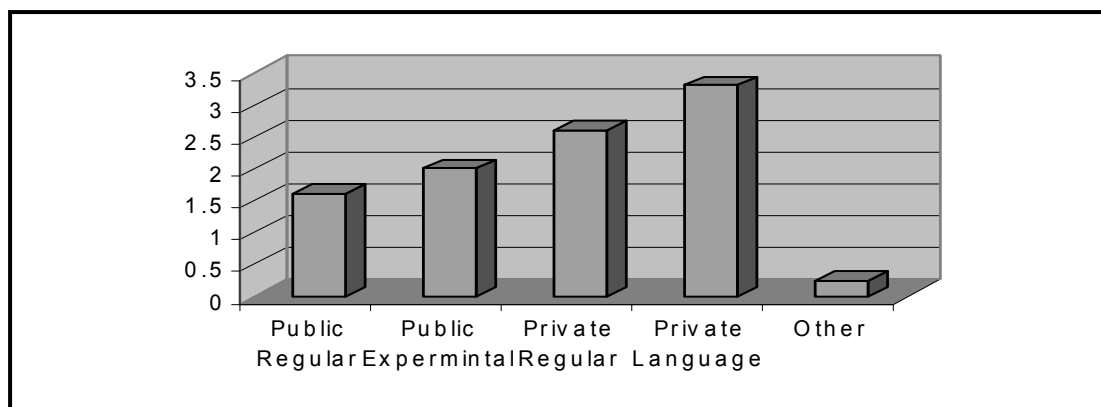
The higher the education quality index, the higher the job quality index is (fig. 11). Thus, while 38.3% of young educated female workforce has a high quality job, the percentage rises to 44.6% among those who get a high quality education.

**Figure 11: Education Quality and Job Quality**



As the education quality index is higher in public experimental and private schools, the job quality index is higher among female graduates of these schools (fig. 12). Female graduates of these schools are more able to get high quality jobs than graduates of other schools (Appendix A-table 6).

**Figure 12: Types of Education and Job Quality Index**



**E. Working in the formal sector**

Education quality has a significant effect on the ability to escape working in the informal sector. While 39.1% of young educated female workforce works in the informal sector, the percentage rises to 47% among low quality schools graduates compared with 29% among

high quality schools graduates. Thus, public experimental and private schools graduates are more likely to escape working in the informal sector (Appendix A, table 6).

Examining the effect of school quality on the ability to work in the formal sector (Appendix B), it is found that low quality of education has a significant negative effect on the ability to work in the formal sector. The odds of working in the formal sector for female graduates of low quality schools are *ceteris paribus* only 0.72 times as likely as for female graduates of high quality schools.

Analyzing labor market pathways of graduates of different types of schools, we may conclude that education quality significantly affects labor market pathways of young educated women through affecting their competitiveness. High quality education results in better labor market outcomes. This in turn boosts young women's economic empowerment. The percentage of high quality secondary schools is higher among private language and public experimental schools than among other types of schools.

Thus, raising female education level is not enough to boost young women's economic empowerment. To strengthen education as a path to enhance women's economic participation and opportunity in Egypt, there is an urgent need to focus on improving education quality. It is worth mentioning that high quality schools are not necessarily private schools. Public experimental schools are better than regular private schools in many aspects.

## **V. Policy Implications**

One of the main objectives of this study is to suggest policy interventions needed to strengthen education as a path to enhance women's economic participation and opportunity in Egypt.

As previously mentioned, education is found to have a powerful influence on women's labor market pathways in Egypt. It is found that higher female education levels result in higher presence in the work force and higher competitiveness, which in turn, results in better labor market outcomes. This is essential for enhancing women's economic participation and opportunity.

However, it is also found that raising female education level is not enough to boost young women's economic empowerment. To strengthen education as a path to enhance women's economic participation and opportunity in Egypt, there is an urgent need to focus on improving education quality.

Depending on the previous analysis and results, to strengthen education as a path to enhance women's economic participation and opportunity in Egypt, it is essential to work in two dimensions:

- ⇒ Increasing female school enrollment and decreasing female school dropouts so as to raise female education levels.
- ⇒ Enhancing education Quality and redistributing investment in secondary and university education.

### ***V-1. Increasing Female School Enrollment***

It is estimated using the ELMPS 06 that 3% of males less than 15 years have never been to school compared with 5.2% of females and 7.3% of rural females. Enrollment gender gap in

rural areas is larger than in urban areas. To increase female school enrollment, obstacles to female school enrollment should be addressed.

Using ELMPS 06 data to determine these obstacles, it is found that these obstacles may be classified into three groups of obstacles:

- 1) School shortages (no school available or too far)
- 2) Economic obstacles, including "inability to pay educational fees and other costs and the need for child labor (in family works or other types of work)". These obstacles are results of poverty.
- 3) Social Factors, including "traditions and other factors that reflect lack of awareness of the importance of female education.

According to the obstacle severity index are (Appendix A-table 7):

**The most important obstacles are the social factors.** The effect of these factors is more significant in rural areas than in urban areas. Addressing these social obstacles requires:

First: campaigns to raise awareness of the importance of female education.

Second: Such campaigns are not expected to have a significant impact in the short run unless accompanied by legal reforms. There is a need to introduce more deterrent penalties against parents not sending children to primary and preparatory schools and also against early marriage.

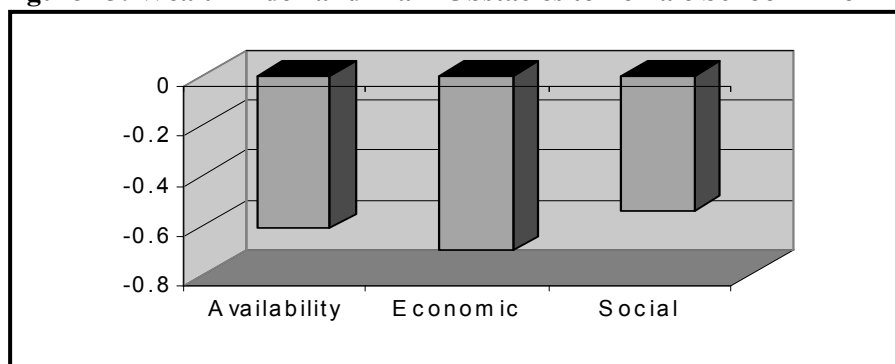
Third: Social obstacles can not be overcome unless economic obstacles are addressed.

The Second most important obstacles are the economic obstacles which are equally important in both urban and rural areas. They include two types of obstacles:

- 1) inability to afford education costs
- 2) need for child labor to support family

These obstacles affect mainly extremely poor families. The wealth index is lowest among those who consider economic obstacles to be the biggest obstacles (fig. 13).

**Figure 13: Wealth Index and Main Obstacles to Female School Enrollment**



Source: author's estimates from the ELMPS 06.

In the long run, adopting effective poverty alleviation policies is essential. In the short and medium run, there is a need for policy interventions to:

First: provide incentives for poor families to encourage them to send their children, especially female children to school. Two interventions are highly recommended:



- a) Increasing the number of beneficiaries of social security pensions and increasing the pension paid to support pre-university students from beneficiary families (LE 60) and adding university students as beneficiaries.
- b) Using conditional cash transfers programs which have proved to be very successful in many developing countries.

Second: NGOs should play a more effective role in providing poor families with school supplies to lower financial burden of education.

Third: in the medium run, more deterrent penalties against child labor should be introduced.

Finally, unavailability of schools as an obstacle has a minor effect. This should not lead us to neglect the need to repair and develop many schools in both urban and rural areas.

### ***V-2. Addressing the Female School Dropout***

Factors leading to female school dropout are classified into four groups (Appendix A-table 7). The first three groups of obstacles are again:

- 1) School shortages (no school available or too far)
- 2) Economic obstacles
- 3) Social Factors

However:

- Although social factors are still the most important obstacles, they are less important as an obstacle to continuing studying than to school enrollment. Families accepting sending their girls to schools are less likely to make them drop out of school because of social factors.
- Economic obstacles are more important as obstacles to continuing studying than to school enrollment. Costs of education rise, the higher the education level is. This leads us again to suggest increasing the pension paid to pre-university students.
- The unavailability of schools in higher levels of education is a problem in rural areas. Thus, there is a need for more investment in building these schools in rural areas.

4) School Failure. One of the main factors that lead to school failure is low quality education. Of the young females surveyed, 100% of those who dropped out of school were previously enrolled in regular public primary schools.

### ***V-3. Enhancing Quality and Redistribution of Investment in Education***

To strengthen education as a path to enhance women's economic participation and opportunity in Egypt, there is an urgent need to focus on improving education quality. On one hand, education quality significantly affects the probability of continuing education or dropping out. On the other hand, it has significant impact on the ability to acquire skills needed to compete in the labor market.

From the above analysis it is obvious that there is an urgent need to work in two dimensions:

#### ***First: Enhancing Education Quality***

The above analysis shows that high quality schools are not necessarily private schools. Public experimental schools are better than regular private schools in many aspects. Thus, we may conclude that public schools can provide a high quality education as private schools. To make all public schools provide a high quality education, there should be more investments in

building new schools and improving education quality in these schools to be as good as public experimental schools.

Public schools play the most important role in pre-university education. They absorb the majority of students; 94.6% of young educated females graduated from regular public secondary schools. Thus, enhancing education quality in these schools should top the agenda.

A comparison of education quality in regular public, private language and public experimental schools<sup>\*</sup>, focusing on the three main dimensions of education quality<sup>\*\*</sup>, shows that the two most important problems in regular public schools are:

- 1) Lack of new technologies. Only 13% of students in regular public schools have computers in their schools and use them frequently compared with 46.2% of students in private language and public experimental schools. This reflects huge gap. Acquiring information technology skills is badly needed to compete in the labor market.
- 2) Shifts: Only a little more than half of students in regular public schools (57.5%) go to schools that work only one shift compared with 94.2% of students in public experimental and private language schools.

To overcome these two problems, more investments are needed to:

- Develop schools so as to make these schools better equipped with information technology.
- Build new schools to increase time available for learning.

Empirical evidence, as previously mentioned, suggests that standard aspects of school quality have a stronger impact on girls' education than on boys' education (Lewis et al. 2008; Govinda 2008; Bergmann 1996; Abbas 2007).

### ***Second: Redistribution of Investment among Different Types of Vocational and University Education***

There is a need to redistribute investments in vocational and university education, considering labor market demand for graduates by field of study. For instance, the female unemployment rate, as previously mentioned, is very low (1.4%) among those graduated from vocational nursing schools while it increases to more than half of those who graduated from industrial-vocational secondary schools, and to more than 2/5 of those who graduated from agricultural-vocational secondary schools.

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\* Using the ELMPS 06

\*\* Time available for learning during the school day, material inputs and attributes of the school and classroom environment such as orderliness.

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## Appendix A:

Table 1: Female Education and Job Search Methods (15-64)

Methods	Used by % of women			
	No Education	Less than Secondary	Secondary and above (Below University)	University
1- Registering in the government	16.7	28.6	55.3	58.6
2- Registering in a private office	0	21.4	19.1	21.4
3-A government Job Competition	0	0	45.5	52.1
4- Sent a Job Application	0	0	42.6	60.9
5- Inquiry at work location	16.7	21.4	18	21.4
6-publishing an advertisement in newspapers (asking for a job)	0	0	4.3	6
7- Applying to a job advertised in the newspapers	0	14.3	21.1	37.2
8-Asking for help from friends/relatives	33.3	71.4	51	51.2
9-Contacting employer	16.7	21.4	15.2	13.5
10-Contacting a contractor waiting at a gathering location	0	0	1.2	0
11- Waiting at a gathering location	0	0	0.8	0.9
12-Searching for a private work	0	0	0.8	1.4
13- Arranging to get finance for a private work	0	0	0.4	0.9

Source: calculated using ELMPS 06.

Table 2: Education and Female Workforce Competitiveness in the Labor Market

		No Education	Less than Secondary Education	Secondary education and Above (Below university)	University	Total
Work in a job that requires specific skills%*	M	65.9	69.3	70.5	82.2	71
	F	55.2	63.4	67.3	91.1	68.4
Work as a Wage Worker%*	M	52.8	65	72.3	82.5	67.3
	F	12.7	34.2	85	79.1	58.9
Fall in Vulnerable Employment%*	M	18.9	19.7	17.7	7.4	16.7
	F	79.8	58.2	13.7	1.97	37.2
Getting a high quality job%*	M	13.7	21.4	35.7	67	32.4
	F	2.9	11.5	63	78.7	42.1
Average Job Quality Index	M	0.62	0.95	1.5	2.8	1.3
	F	0.12	0.52	2.4	3.2	1.6
Working in the informal sector%*	M	67.2	55.4	43.7	14.1	47.3
	F	81.7	62.5	23.8	7.5	42.9

\* Pearson Chi2 is significant at 0.01.

Source: calculated using ELMPS 06.

Table 3: Occupational Segregation in the Egyptian Labor Market

Occupations	% of male and female (15-64)*		% of male and female (15-29)**	
	Male	Female	Male	Female
Legal, Administration & managerial	10.1	8	4.8	1.1
Professional	12	21.9	6.9	20.8
Technicians & Professional assistants	8	15	4.3	13.9
Clerical	3.4	7.2	2.1	5.8
Services & sales	14.8	10.9	18	13
Farmers, fishermen & hunters	19	29.7	22.5	33.6
Handicrafts	20.6	3.9	28.2	5.3
Production	8.4	2.7	8.3	6.1
Unskilled Workers	3.8	0.6	4.9	0.5

\* Pearson Chi2 is significant at 0.01.

Source: calculated using ELMPS 06.

Table 4: Education and Women's Occupational Status

Level of Education	% of Women (15-64)		% of Women (15-29)	
	Legal, Professional and Technicians	Other Occupations	Legal, Professional and Technicians	Other Occupations
Less than Secondary	8.6	91.4	3.1	96.9
Secondary and University	56.7	43.3	35.1	64.9
University	92.7	7.3	86.4	13.6
Total	45	55	35.8	64.2

\* Pearson Chi2 is significant at 0.01.

Source: calculated using ELMPS 06.

Table 5: School Type, Acquiring Higher Education and High Skills (Educated Women 15-29)\*

Types of Secondary School	Getting a university degree % (1)	Getting a Job that requires specific skills % (2)	Acquiring skills through regular education % (3)	Using computer and internet at work % (4)
Public (regular)	24.5	70.8	70.5	20.1
Public (exper.)	63.6	100	75	75
Private (regular)	34.1	88.9	87.5	33.3
Private (language)	100	100	71.4	71.4
Religious and other	57.8	20	0	0
Total	26.2	71.2	70.7	8.5

\* Pearson Chi2 is significant at 0.05.

Source: calculated using ELMPS 06.

**Table 6: Type of Education and Labor Market Outcomes – Young Educated Female Workforce**

	Public (reg.)	Public (exp.)	Private (reg.)	Private (lang.)	Other	Total
Unemployment Rate%(1)	52.4	20	43.8	12.5	81.8	52.4
Vulnerable Employment (2)	15.2	0	0	0	31.82	15.1
Wage Worker (3)	40.1	80	56.3	87.5	9.1	40.2
Working in Legal, Professional and Technicians occupations % (4)	55.5	100	77.8	85.7	0	56.2
Getting high quality jobs % (5)	40.8	75	88.9	100	50	38.3
Working in the Informal Sector% (6)	39.4	25	22.2	14.3	100	39.1

\* Pearson Chi2 is significant at 0.01.

Source: calculated using ELMPS 06.

Table 7: Severity of Obstacles to Female School Enrollment and those leading to Female School Dropouts\*

Obstacles	to School Enrollment		School Dropouts	
	Urban	Rural	Urban	Rural
Unavailability of Schools	7.4	0	0	2
Economic obstacles	12.2	12	30	9
Social Factors	80.4	88	59	71
Failure in school "Repeating grades"			12	18

Source: calculated using ELMPS 06,

\*Calculating a weighted average of the degree of severity: (percentage of respondents considering this obstacle the biggest one  $\times$  2 + percentage of respondents considering this obstacle the second biggest one  $\times$  1)  $\div$  3.



**Appendix B:**

**B-1. Variable Definitions**

LFP	Labor Force Participation	Participating in the labor force=1
JS	Job Search	Doing a job search = 1
Unemp	Unemployment	Being Unemployed = 1
Underemp	Underemployment (working less than 40hrs a week)	Underemployed = 1
JRS	Getting a job that requires specific skills	Get a job that requires specific skills = 1
ACSKED	Acquiring skills required through formal education	Acquire skills required through formal education = 1
VulEmp	Vulnerable Employment	In Vulnerable Employment = 1
WW	Wage work	Get a wage wok=1
HQJ	High Quality Job	Get a high quality job = 1
Informal	Working in the Informal Sector	Work in the informal sector = 1
Govpub	Working in the government or the public sector	Work in the Government or the Public Sector = 1
Priv	Working in the private sector	Work in the private sector = 1
Occupation	Occupation	Legislators, senior officers, managers, professionals, technical and association professionals =1
Formal	Working in the formal sector	Work in the formal sector = 1
EDUC*	Level of Education: EDUC(1) EDUC(2) EDUC(3) EDUC(4)	No Education Less than secondary Education Secondary education and above (below university) University and above
NHEAD	Not Head of the Family	Not Head = 1
Age	Age	
NMARRIED1	Martial Status	Not Married =1
URBAN1(1)	Residence	Urban = 1
WEALTH1	The Wealth Index	
EDUCQUA(1)	Education Quality	Low =1

\* EDUC(4) – reference category.

## B-2. Summary of Models Estimated

### A- Effects of Female Education on Their Presence in the Labor Market (15-64)

	LFP	JS	Unemp	Underemp
EDUC(1)	---	---	---	+++
EDUC(2)	---	---	---	+++
EDUC(3)	---	---	+	0
NHEAD (1)	+++	-		0
AGE1	+++	---	---	--
NMARRIED1(1)	+++	+++	0	---
URBAN1(1)	---	0	0	---
WEALTH1	---	--	0	0
N	10438	10500	3305	2595
Chi-square	1567.96****	1295.5****	900.4****	355****
DF	8	8	7	8

### B- Effects of Female Education on Their Competitiveness in the Labor Market

	JRS	ACSKED	VulEmp	WW	HQJ	Informal	Govpub	Priv	Occupation
EDUC(1)	---		+++	---	---	+++	---	+++	---
EDUC(2)	---	---	+++	---	---	+++	---	+++	---
EDUC(3)	---	---	+++	---	---	+++	---	+++	---
NHEAD (1)	0	0	+++	0	---	+++	---	+++	---
AGE1	0	+++	--	0	+++	---	+++	---	+++
NMARRIED1(1)	---	0	---	+++	---	+++	---	+++	---
URBAN1(1)	-	0	---	+++	++	---	0	0	+
WEALTH1	++	+++	---	+++	+++	---	+++	---	+++
N	2596	1269	2595	2595	2589	2595	2589	2589	2589
Chi-square	288.1****	493.5****	1685.3****	1827.4****	1910.5****	1541.6****	1807.5****	1821.1****	1610.7****
DF	8	7	8	8	8	8	8	8	8

### C- Effects of Secondary Education Quality on Young educated Women Workforce

	JRS	HQJ	Formal
URBAN1(1)	0	0	+
WEALTH1	+++	+++	+++
AGE1	++	+++	+++
NHEAD (1)		0	0
NMARRIED1(1)		---	---
EDUCQUA(1)	--	-	--
N	519	520	1091
Chi-square	55.8****	112.6****	132.3****
DF	4	6	6

\*\*\*0 insignificant, + or - significant at 10%, ++ or -- significant at 5%, +++ or --- significant at 1%.

\*\*\*\* The model is statistically significant; the p-value is less than .000.