What empowers Egyptian women: resources versus social constrains?

Hanan Nazier and Racha Ramadan

Faculty of Economics and Political Science, Cairo University, Giza, Egypt

Abstract

Purpose – This paper aims to tackle an important question related to women's economic empowerment in highly patriarchal societies like Egypt. The paper discusses individual, household, wealth and location factors determining women empowerment, as measured by two dimensions: decision-making power and mobility.

Design/methodology/approach – Using the "Egypt Labor Market Panel Survey" (ELMPS) 2012, a Multiple Indicators Multiple Causes (MIMIC) model was estimated to study the main economic resources and social constraints that determine women empowerment as measured by the power of women over household decisions and her freedom of movement in Egypt.

Findings – Three key messages could be delivered. First, women's own economic resources as captured by her employment status are an important source of her empowerment. Second, contrary to theoretical prediction education is not playing its expected role in developing awareness and transforming ideas concerning gender roles in Egypt. Third, the importance of social local context is fundamental for Egyptian women empowerment.

Originality/value – This study is an attempt to address some of the gaps in the literature for the Egyptian case, where there is a lack in rigorous studies measuring women empowerment and examining its determinates. This is done by first, tackling multiple dimension of women's empowerment, decision-making inside households and freedom of mobility. Second, using MIMIC model, which is a modeling approach that allows for studying the relations between several causes of a given latent variable, such as "Empowerment" in our case, and a number of its possible indicators, without a directly observable measure of the latent variable. Third, using the most recent set of data; the ELMPS 2012 which has a special focus on women's resources and agency that permits greater content validity of the multidimensional setup. Forth, the macro level differences in women's status are tackled through using location dummy variables. Finally, given the important correlation between wealth level and women empowerment, the paper is considered a first attempt to analyze such impact by including a variable that captures the wealth level of the woman's household as one determinant of empowerment.

Keywords MIMIC, Women's empowerment, Agency empowerment, Decision-making index, Mobility index

Paper type Research paper

Introduction

Women's empowerment refers to their possession of enabling resources, which may, in turn, enhance their *agency* (Naila. Kabeer, 1999) or ability to "define their own life-choices", even with opposition from others. Feminist scholars view women's empowerment as an important goal in itself; whereas, instrumentalists see it as a useful means to achieve other development goals related to health and well-being of empowered women, their children and their household among other societal benefits[1] as well as overall nation economic growth[2].

Accordingly, women's empowerment has been stressed as a key objective for development policies and programs, as evidenced by the third Millennium Development Goal (MDG) of promoting gender equality and empowering women and then the fifth Sustainable Development Goal with a similar content (Kabeer 2005a). This importance is gaining more emphasis given the positive logic association between poverty and disempowerment, as the inability of providing basic needs often rules out the inability of exercising meaningful choices (Malhotra and Schuler, 2005 and Abdel Mowla, 2009). Hence, formulating women's empowerment, specifying its dimensions and its determinants as well as standardizing rigorous approaches to its measurement are priorities for global research and policy.

The concern with women's empowerment has also been building in Egypt during the past 30 years, especially after the uprising of the January 25, 2011. These events have heightened societal concerns about women's role in the public sphere and in economic life, as well as her critical role inside her own household.

Women face serious challenges in terms of participation in economic life in Egypt. Women make up only a quarter of the labor force, with almost a quarter of those who are economically active, being unemployed rather than employed, an unemployment rate that is approximately four times higher than that of men. Unemployment is heavily concentrated among young women, approximately 11 per cent of all young women are unemployed, a share higher than among young men, despite lower force participation. Most young women are not in the labor force as 75 per cent of young women are inactive (Assaad and Krafft, 2015).

Moreover, poverty in Egypt reached 27.8 per cent in 2014/2015, according to the Central Agency for Public Mobilization and Statistics (CAPMAS). The poor in Egypt are concentrated in rural areas among female-headed households. The MDGs report sheds light on the stronger negative association between school attendance and poverty for girls relative to boys. Only 80 per cent of female children (6-12) in the poorest households have ever attended school compared with 88 per cent of male children in the same age group (UNDP and Ministry of Economic development, 2010). Illiteracy is also strongly associated with gender in Egypt. According to the 2006 population census, among the 2.5 million illiterates between the ages of 15 to 24 in Egypt, 60 per cent were female (Population Census, 2006).

There is a general agreement that women's empowerment is a dynamic, context-specific and multi-dimensional process featuring economic, socio-cultural, familial/interpersonal, legal, political and psychological dimensions. This yields to some challenges when measuring women's empowerment. From these challenges some are distinguished by the literature to be of most importance; these include the use of proxy indicators instead of direct measures, the lack of the availability and use of data across time, the subjectivity in assessing process and the shifts in relevance of indicators over time (Roushdy, 2004 and Malhotra and Schuler, 2005).

Our review of the international literature revealed that with some exceptions (Kishor, 2000a; Yount, 2005), the majority of studies used direct measures of empowerment with a

geographical bias toward South Asian countries[3]. For the MENA region, there is a lack of rigorous studies of this kind. Common gaps in the literature at both the international level as well as at the MENA region level include the following. Most research on women's empowerment used secondary data from multi-purpose surveys, which contain a limited number of empowerment-related items (Kishor and Subaiya, 2008). Most of the studies used summative indices that assign equal weights to different observed indicators of empowerment. Moreover, a common shortcoming of most of the previous studies is ignoring the macro level determinates of women's status and hence the context specific aspect of empowerment (Durrant and Sathar, 2000; Roushdy, 2004). Finally, none of the studies examined the effect of income/wealth level on women's empowerment.

Therefore, this study is an attempt to address some of those gaps in the literature for the Egyptian case, where there is a lack in rigorous studies measuring women's empowerment and examining its determinates. This is done by first, tackling multiple dimension of women's empowerment; decision-making inside households and freedom of mobility. Second, using Multiple Indicators Multiple Causes (MIMIC) model, which is a modeling approach that allows for studying the relations between several causes of a given latent variable, such as "*Empowerment*" in our case, and a number of its possible indicators, without a directly observable measure of the latent variable. Third, using the most recent set of data; the Egypt Labor Market Panel Survey (ELMPS) 2012 which has a special focus on women's resources and agency that permits greater content validity of our multidimensional setup. Forth, the macro level differences in women's status are tackled through using location dummy variables. Finally, given the important correlation between wealth level and women's empowerment, the paper is considered a first attempt to analyze such impact by including a variable that captures the wealth level of the woman's household as one determinant of empowerment.

Accordingly, this paper is concerned with determinants of women's empowerment in Egypt. Using the ELMPS 2012, the paper discusses individual, household, wealth and location factors determining women's empowerment, as measured by two dimensions; decision-making power and mobility.

The paper is organized as follows; Section 1 is a background that reviews women's empowerment measures and the related literature. Section 2 describes the methodology. Section 3 presents the data used in the regression. The estimated results are presented in Section 4 and finally Section 5 concludes.

Background
2.1 Defining and measuring women's empowerment and agency
There is a growing body of literature in which efforts have been made to define the concept of empowerment. The present study will adopt the definition introduced by Kabeer (1998, 1999, 2001a, 2001b, 2005a, 2005b), where woman empowerment is defined as the process through which women acquire enabling resources that enhance their agency, which in turn enhance their personal well-being as well as that of their family. Enabling resources include human resources (e.g. school attainment), economic resources (e.g. income or other assets) and social ones (e.g. membership in extra-familial networks) (Kabeer, 1999; 2001b; 2011).

Women's agency means her ability to define and to make strategic life choices. In concept, women agency comprises women's observable actions and their ideational agency. Women's observable actions include their influence in family economic decisions and their freedom of movement in public spaces, while their ideational agency refers to their perceptions and views towards equitable gender attitudes (Kabeer, 1999). Accordingly, women's empowerment is viewed widely as a multidimensional phenomenon that covers various dimensions such as economic, socio-cultural, familial/interpersonal, legal, political

and psychological (Kabeer, 1999; Malhotra and Schuler, 2005; Yount, 2005 and Elisabeth Mogford, 2011).

In Egypt, the dominant model that governs familial and kin relations is the ideal type model of classic patriarchy (Kandiyoti, 1988). Accordingly, salient aspects of women's agency in Egypt are identified to be women's participation in family decisions (especially those reserved for men), freedom of movement in public spaces and vocalization of views favoring more equitable gender roles and rights (Nawar *et al.*, 1995; Govindasamy and Malhotra, 1996; Kishor, 1995, 2000a; Yount, 2005 and Yount *et al.*, 2015).

In this study, we focus on women's observable actions aspect of agency. Accordingly, women's empowerment is measured by two dimensions; their influence in family's decisions and their freedom of movement in public spaces. Influence in family decisions indicates the extent of women's say (none, joint or alone) in household decisions related to monetary transaction, food purchase and her healthcare. By women's freedom of movement, we mean their ability to go to places, such as the market or the health center (cannot go alone, need permission or does not need permission). Following recent literature, those decisions should not be valued equally. Some of them reflect social norms and pre-existing gender division of roles and responsibilities like the purchase of daily items, what to cook daily and whether permission required to go to market, which are typical female responsibilities. Those decisions reflect a greater responsibility for the family rather than a greater freedom of choices. While other decisions may reflect self-consideration rather than just responsibility such as permission required to visit family and friends, who decides on obtaining health care for respondent and for buying clothes for herself. Meanwhile some of those decisions are minor daily life decisions (e.g. what to cook daily) while others are strategic life choices (like getting medical treatment and large household purchases) (Kabeer, 2001a and Garikipati *et al.*, 2017) that could be considered to reflect a greater freedom of choices. Therefore, it would be inappropriate to merge all decisions in one single measure and they should be analyzed separately. Meanwhile, all these decisions are interdependent, as they are all concerned with the woman's life within her household. Hence, the paper distinguishes the different decisions and studies them simultaneously through using a MIMIC model as will be explained in details in the methodology section.

2.2 Women's empowerment measurement

As empowerment is a multidimensional concept, it is problematic to operationalize it; this is reflected in some weakness in its measurement in the literature. Some studies used indirect measures using a single observable characteristic, such as women's education, labor force participation rates and earnings, as a proxy of empowerment. While others used direct measures, which is a combination of observable indicators that are grouped into different dimensions of empowerment including economic decision-making; child-related decision-making; marriage related decision-making; freedom of movement; power relations with husband; access to resources; self-esteem; and control over resources.

The indirect measures were extremely criticized (Jejeebhoy, 1991; Balk, 1994; Vlassoff, 1994). First, proxies for empowerment are context dependent, these render comparative research inaccurate. Second, proxy measures do not afford adequate evidence for how well they capture empowerment dimensions. Third, proxies alter the channels through which empowerment works. Finally, as empowerment compromises multiple dimensions, proxies obscure which dimension is being measured (Whyte, 1978 and Agarwala and Lynch, 2006). Direct measures managed to tackle many of the inadequacies of the indirect-measure approach. They have explicitly quantified the mutli-dimensionality of empowerment, thus clarifying the determinants and consequences of each dimension. In addition, direct-

measures enlightened the channels through which economic and social factors, such as education and labor force participation, affect empowerment, rather than confusing its causes and effects (Goetz and Gupta, 1996; Mason, 1997; Kritz and Makinwa-Adebusoye, 1999; and Agarwala and Lynch, 2006).

2.3 Theoretical foundations of determinants of women's economic empowerment
Our theoretical foundation for the determinants of women's empowerment follows Yount (2005). Economics and population studies imply that the distribution of power in marriage depends on the balance of economic and social resources between husbands and wives (Jr, Robert O Blood and Donald M Wolf, 1960). However, empirical studies show that the effect of husband's economic resources on marital power depends on the institutional and normative context (Hyman Rodman, 1972). In Middle East patriarchal societies, husbands or marital kin control major decisions; hence, ascribed characteristics are more important than economic resources as sources of power for husbands and marital kin. Accordingly, husband's and household economic resources are irrelevant to patterns of decision-making in marriage (Rodman, 1972). Meanwhile, those studies confirm the positive effect of a woman's economic resources on her marital power through different normative and institutional contexts (Fox, 1973; Burr *et al.*, 1977; Rogler *et al.*, 1982; Oropesa, 1997; Xu and Shu-Chuan, 2002). Hence, access to and control over social and economic resources within and beyond the marital home may influence women's empowerment.

Moreover, in patriarchal settings prescribed powers of husbands and marital relatives provide them authority over family decisions and are more important than their economic resources as sources of power. Accordingly, at one hand, social and economic resources that women have are expected to affect their influence in family decisions and hence their empowerment. However, on the other hand, social constrains, mainly the structure of a woman's marital household and local social context where she lives, can constrain her decisions (Yount, 2005).

Following Yount (2005), the main determinants of women's empowerment resulting from this conceptual framework can be summarized into four groups. First, social resources that include woman's age and parents' characteristics. Second, economic resources include human capital (e.g. educational attainment, employment) and wealth. Third, social constraints – refers to the social restrictions on woman's ability to use resources available to her and include age and education gaps between husband and wife. The fourth group includes regional dummy variables to account for local social context.

In light of the previous discussion, we propose three main hypotheses:

H1. Living with a parent-in-law or an adult son and higher age difference with husband will decrease a woman's impact on decisions as well as her mobility. While having greater number of children will increase her decision-making power and decrease her mobility.

H2. Economic resources of husbands (measured by his education and employment status) and of the household (reflected by household standard of living) will be irrelevant to a woman's decision-making power and mobility.

H3. Increases in a woman's access to and control over social and economic resources (parents characteristics, her own and her parent's contribution to marriage costs, woman's employment and education status) will increase her decisions making power and mobility. While woman's age increases her decisions making power but decreases her mobility.

2.4 Empirical evidence of women's economic empowerment in Egypt
Few studies examined quantitatively women's empowerment determinants in Egypt. Several methodological approaches were used, such as descriptive approach and probability models. Probability models (logit, probit, ordered logit) allows testing the realization of empowerment using a specific indicator, for instance whether the woman is employed (i.e. empowered). To tackle the multidimensionality of women's empowerment; factor analysis is used to reflect the several dimensions of empowerment in one indicator. MIMIC model is used as well to allow tackling the multidimensionality of women's empowerment.

Of the studies focusing on indirect measures of empowerment, Khattab and Sakr (2009) used the descriptive approach and the ELMPS (2006) to investigate determinates of women's empowerment in Egypt. This study focused on the economic dimension of women's empowerment as measured indirectly by female participation in the labor market. Abdel Mowla (2009) also used indirect measures of empowerment obtained from the ELMPS (2006). The author applied logistic regression to examine the effect of the level and type of education on women economic empowerment proxied by two indirect measures:

(1) economic participation; measured as female labor force participation, probability of escaping employment and strengthening job search behavior; and

(2) economic opportunity; measured by wage work and escaping vulnerable employment, escaping low quality job and overcoming occupational segregation.

Other studies used indirect measures. Kishor (1995) estimated ordered logit model using the 1988 Egypt Demographic and Health Survey (EDHS) to examine the effect of several modernization, economic and cultural factors on three different direct measures of empowerment. First, the customary autonomy index used to measure the extent to which women believe they should have the say in decision related to matters women traditionally would have control over; mainly family planning and children education and marriage. Second, the non-customary autonomy index that measures the extent to which women believe they should have decision-making powers in general and in areas outside their traditional roles, such as visits to relatives and household's budget. Finally, the realized autonomy index measuring the extent to which women perceive that they have decision-making powers and freedom of movement. The determinants of empowerment used by this study are household characteristics (region and socio-economic index), individual characteristics (age, education exposure to media, migration history and employment status), husband characteristics (education and profession) and cultural variables (religion, marriage pattern, post marital residential arrangement and number of children by gender). The results showed that while most factors have a similar impact on the indices of customary autonomy and non-customary autonomy, they do not always have the same impact on the realized autonomy index. Modernization efforts that affect women's individual characteristics, like women own education, affect women mostly by altering their views about women's role in decision-making. While modernization efforts that affect the circumstances in which women live, such as the level of education of her husband, affect her realized level of autonomy. The impact of employment on empowerment is different for each dimension. Realized autonomy is the only aspect that is significantly affected by women work, irrespective of whether they control their earnings and whether they earn cash for the work they do. The other two dimensions as measures of perceptions about women's roles is not affected by employment *per se*, but by access to, and control over, earnings derived from employment. Finally, only few cultural variables affect any of the aspects of empowerment

directly, realized autonomy is lower among women who are Muslim, who live in large households, who are remarried and who have greater number of children irrespective of their gender.

The factor analysis approach is used by Yount (2005) to create scales capturing women's say in household decisions and examined the impact of a woman's social and economic resources and household structure on her family power and gender preferences in Minya, Egypt. Marital household structure mainly residence with parents-in-law, brothers-in-law and the husband decrease women's influence in decisions. Social resources had a significant impact on women decision-making; on average, women in endogamous marriages have greater influence in life course decisions than do women in non-endogamous marriages and women's age is significantly associated only with having greater influence in daily domestic decisions. Economic resources impact depends on the variable used to capture it, while her own education and work as well as her husband education had a significant positive impact on daily and life course decisions; wealth measures had no significant effect. Similarly, Yount *et al.* (2016) used factor analysis to explore the multi-dimensionality of Egyptian women's agency. They focused on the effect of women's age at first marriage on her empowerment. They used the ELMPS 2006 and applied factor analysis to explore and test the factor structure of women's agency on three main dimensions: family decisions, freedom of movement and acceptance of violence against wives. They used as well MIMIC structural equations model to test for Differential Item Functioning (DIF) by women's age at first marriage. Results showed that women's older age at first marriage was positively associated with family decision-making power and gender-violence attitudes, but not freedom of movement, thus confirming the multidimensional aspect of women's empowerment.

Finally, Salem *et al.* (2017) studied the impact of ever-married women's market work compared to those with subsistence work and those who do not work on women's empowerment in rural Minya, Egypt. They focused on three dimensions of empowerment: economic decision-making, freedom of movement and equitable gender role attitudes. Using structural equation model with propensity score adjustment, the results showed that women's work has a positive impact on women's freedom of movement where the effect of market work exceed that of subsistence work. But women's work does not affect decision-making power or gender attitudes.

However, those studies have some limitations. First, despite using direct measurement for empowerment most of them focused on a single dimension of empowerment decision-making with the exception of Kishor (1995), Yount (2016) and Salem *et al.* (2017). Still these later two studies focused on the impact of a single factor [age at marriage for Yount (2016) and woman's work for Salem *et al.* (2017)] on empowerment. In addition, Yount (2016) used relatively old data set, while Salem *et al.* (2017) used a subsample of only 600 women. Second, a common shortcoming of most of the previous studies is ignoring the macro level differences of the community where the woman lives (Durrant and Sathar, 2000; Roushdy, 2004). Finally, none of the studies reviewed examined the effect of wealth level on women's empowerment.

Hence, this research is an attempt to address those limitations. First, we use the most available recent data set to tackle multiple dimension of women's empowerment in the same analysis namely, two dimensions of women's empowerment are studied; mobility and decision-making inside households. More precisely, using the ELMPS (2012), the paper focused on the determinants of women's empowerment in Egyptian households. Second, we measure women's empowerment using a measurement modeling approach that allows for differential weighting in the relationship of latent empowerment variable with the observed items. Third, the macro level differences in women's status are tackled through using

location variables[4]. Finally, given the important correlation between poverty and women's empowerment, our analysis includes a variable that captures the wealth status of the woman's household as one determinant of empowerment.

3. Methodology

This paper uses the MIMIC Model, which is used when there are several causes and several indicators for a single latent variable (Joreskog and Goldberger, 1975). In our case, this latent variable is women's empowerment in Egypt, noted as E*. The different determinants of empowerment include social resources, social constraints, economic resources and demographic variables. Then empowerment affect the decision-making power of the respondent within her household as well as her freedom of mobility. The decision-making power and the freedom of mobility are represented in our model by several decision and mobility indicators (See Appendix 1). The advantage of using a MIMIC model is that it allows exploring the linkages between the determinants of our latent variable, empowerment, and several its indicators, without a directly observable measure of empowerment (Rose and Spiegel, 2009). Moreover, the MIMIC model allows considering simultaneously different empowerment indicators, which are the different decisions in our case, in addition to accounting for the interdependence between these decisions.

More precisely, the MIMIC model consists of estimating two interdependent sets of structural equations. The first is a structural equation that models the causes of the latent variable empowerment (E*). As empowerment variable, E*, takes value 1 if woman is empowered, 0 otherwise, the structural equation can be written as follows, where the f(.) is logit function, Xs are the different causes of empowerment and the error term ε follow logistic distribution.

$$P(E^* = 1) = f(X_1, \ldots, X_k, \ \varepsilon) \tag{1}$$

The regressors X include the causes of empowerment that can be divided into four groups: social resources, economic resources, social constraints and demographic characteristics. Following the literature, the respondent's social and economic resources include her age in years and its square –to take into consideration, the non-linear effect of age- her education and her employment status. To account for the fact that woman empowerment could be affected by her employment status and vice versa which may cause a problem of endogeniety; the employment status of the respondent in 2006 is used instead of her current employment status. As it is expected that being employed in 2006 may affect her actual level of empowerment in 2012, but the inverse is not true. Other social and economic resources include her parents' employment status, her share and her family's share in the marriage costs. This group of determinates include also a dummy variable for wealth quintiles based on wealth score that accounts for the durable goods available to the household.

To control for social constraints, we include variables, such as the number of her children, if there is an adult son living with her and if she is living with her mother in law. Moreover, to take into account the role that maybe played by the respondent's husband characteristics in affecting her decision-making power and her freedom of movement, his age and education gap between him and her (age gap) are included in the model. In addition to the education gap that reflects if both have same education, if he has higher education by one level, two or more levels and if he has lower education by one level, two or more levels. Her husband's employment status is included in the model as well. Finally, the model includes regional dummies of the five Egyptian regions where the respondent lives, to control for the social context where the respondent lives.

The second, set of equations is the indicators equations, which are the outputs of empowerment. In our cases, we have ten indicator equations; six for the decision-making power, DI_i, for who have the say concerning issues as large household's purchases, daily food and purchase of her clothes. And four mobility indicators, MI_j, which are tackling her ability to visit sites such as the local market or health centers.

Each variable of DI_i and MI_j may take several answers based on who takes the decision and based on the ability to go out with or without permission from other family members, respectively. For instance, concerning the decision indicators, women may take decisions alone, with others or do not participate at all. Hence, each decision indicator is assigned the highest rank if she takes the decision alone, followed by women who decide jointly with their husbands then come those who decide jointly with others in their household and finally women who have no say in the decision. Similarly, for mobility indicators, she may be able to go out without the need of permission, by just informing them or with someone from the households[5]. Accordingly, DI_i and MI_j are two sets of observable indicators of empowerment, which take ordered values, hence, the second set of structural equations can be written as follows, where the g_i (.) and f_j (.) are ordered logit and the errors terms μ_i, ν_1 follow logistic distribution:

$$DI_i = g_i\big(E^*, \mu_i\big); i = 1, 2, ...6 \tag{2A}$$

$$MI_j = f_j\Big(E^*, v_j\Big); j = 1, 2, ...4 \tag{2B}$$

4. Data
The data used in this paper are drawn from the Egyptian labor Market Panel Survey (ELMPS) for 2012. The ELMPS is carried out by the Economic Research Forum (ERF) in cooperation with Egypt's Central Agency for Public Mobilization and Statistics (CAPMAS) since 1998. The ELMPS 2012 is the third round of this periodic longitudinal survey that tracks the labor market and the demographic characteristics of households and individuals interviewed in 2006, both individuals included in the ELMS 1998 and individuals added in 2006, as well as a refresher sample of 2,000 new households to ensure that the data continues to be nationally representative, a total sample of 12,060 households and 49,186 individuals. The ELMPS is considered a wide-ranging, nationally representative panel survey that covers topics such as parental background, education, housing, access to services, residential mobility, migration and remittances, time use, marriage patterns and costs, fertility, women's decision making and empowerment, job dynamics, savings and borrowing behavior, the operation of household enterprises and farms, besides the usual focus on employment, unemployment and earnings in typical labor force surveys.

Our research focuses on 5,222 married women, in 5,181 households, aged between 15 and 49 years old[6]. Regarding social constraints, only 5 per cent of the respondents live with their mother in law and 22 per cent are living with their adult son. Only 21 per cent of the respondents were employed in 2006. Most of the respondents (93 per cent) are married with men older than them. While, only 30 per cent are married to men with higher education level compared with 20 per cent of the respondents married to men with lower education level.

Regarding the economic resources; it is found that 18 and 18 per cent of the sample is in the poorest and richest quintiles, respectively (Table I). While for other demographic characteristics, Table II shows that 17 per cent of the sample lives in metropolitan areas:

Great Cairo, Alexandria and Suez Canal. The remaining is distributed between Lower and Upper Egypt in both rural and urban areas, with more than 50 per cent of the sample living in the rural.

As described above, women's empowerment is measured here by decision-making power and mobility indices. Figures 1 and 2 show the distribution of the answers of our sample of interest for each of the questions of decision-making index and mobility index, respectively.

Wealth quintile	(%)
The poorest	18
Second quintile	20
Third quintile	22
Fourth quintile	20
The richest	18
Total	100
Source: Computed by the authors from ELMPS (2012)	

Table I.
Sample distribution according to wealth quintiles

Region	(%)
Metropolitan	17
Urban Lower	12
Urban Upper	15
Rural Lower	31
Rural Upper	25
Total	100
Source: Computed by the authors from ELMPS (2012)	

Table II.
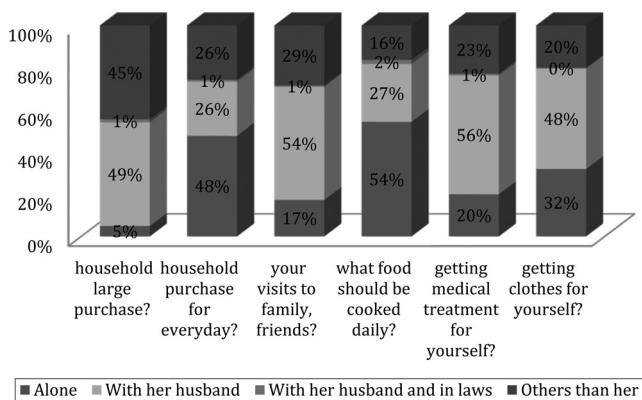Distribution of the sample by regions

Figure 1.
Distribution of answers for the decision-making questions (%)

Source: Computed by the authors from ELMPS (2012)

For the decision-making questions, we found that, women mainly have a say in the daily decisions; such as daily purchases and what should be cooked daily. For large household's purchases, visits to family and friends, getting medical treatment for herself and buying clothes to herself, most of women in our sample take these decisions with their husbands (Figure 1).

For the mobility dimension, most of women of our sample need permission before going to the local market (48 per cent) or to the health center (54 per cent), before taking children to the health center (55 per cent) or visiting families and friends (65 per cent). It is worth noting that going to the local health center is the most restricted place for Egyptian women in our sample as 31 per cent of our sample cannot go alone as compared to 16, 28 and 18 per cent of the sample cannot go alone to local market, take children to health center and go to friends or relative house, respectively (Figure 2).

5. Empirical results

The MIMIC model was estimated using the ELMPS (2012) data for Egypt, our latent variable *Empowerment* had significant ($p < 0.01$) factor loadings on all six decision-making power indicators (equal to or exceeding 1.580) as well as the four mobility indictors (equal to or exceeding 1.195) (Appendix 3 and 4).

The estimated results for the decision-making index and mobility index are represented in Table III.

The two models include variables measuring economic resources, social resources, social constraints and regional variables. For the social resources; the results show that age has a non-linear effect on empowerment as measured by both decision-making power and mobility. Women's decision-making power and freedom of mobility increased with age until 40 and 37 years old, respectively, then decreased. For parents' employment, the results showed that father's employment has a positive significant effect on his daughter empowerment as measured by her mobility. While for her decision-making power only a wage worker father significantly increases his daughter's empowerment as compared to a no job or unpaid family worker father. As found by the literature, mother's employment plays an important role in strengthening her daughter's empowerment. Our results suggest that an employed mother – no matter the type of employment – as compared with mothers with no job had a positive and significant impact on her daughter's empowerment
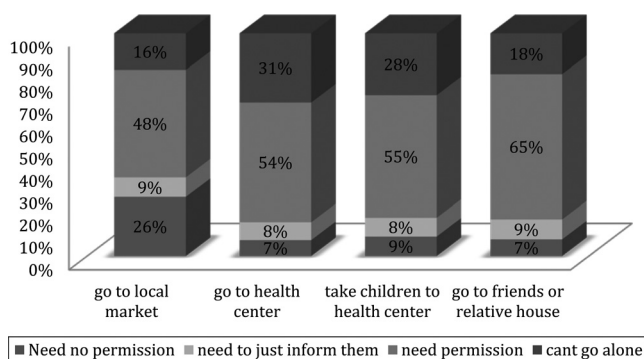

Figure 2.
Distribution of answers for the mobility questions (%)

Source: Computed by the authors from ELMPS (2012)

	Decision Empowerment	Mobility Empowerment
Social resources		
Respondent's age	0.0463*** (0.010)	0.0559*** (0.0123)
Respondent's age squared	−0.001*** (0.000)	−0.000754*** (0.000186)
Father's employment status (Reference category: unpaid family worker/no job)		
Wage worker	0.133* (0.072)	0.198** (0.0855)
Employer	0.117 (0.073)	0.186** (0.0874)
Self-employed	0.113 (0.076)	0.149* (0.0900)
Mother's employment status (Reference category: no job)		
Wage worker	0.087** (0.037)	0.0354 (0.0439)
Employer/self-employed	0.209*** (0.073)	0.0600 (0.0860)
Unpaid family worker	0.173*** (0.044)	0.0905* (0.0521)
Share of marriage cost	0.146*** (0.055)	0.147** (0.0658)
Economic resources		
Respondent's education (Reference category: Illiterate)		
Literate/Basic – Intermediate Education	−0.012 (0.029)	0.0291 (0.0343)
Secondary education	0.019 (0.029)	0.00358 (0.0342)
Post-Secondary – Post University Education	−0.005 (0.038)	−0.0692 (0.0453)
Respondent was employed in 2006	0.060*** (0.023)	0.0470* (0.0268)
Respondent's wealth status (Reference Category: First quintile)		
Second quintile	0.0310 (0.025)	0.00405 (0.0298)
Third quintile	0.018 (0.024)	0.0246 (0.0284)
Fourth quintile	0.008 (0.025)	−0.00854 (0.0300)
Fifth quintile	0.014 (0.00913)	−0.0220** (0.0109)
Social constraints		
Are you daughter in law?	−0.330*** (0.0429)	−0.121** (0.0493)
Do you have an adult son living with you?	0.0900*** (0.0335)	−0.0180 (0.0395)
Number of children	0.00124 (0.00702)	0.0619*** (0.00873)
Age gap between the respondent and her husband (Reference Category: he is older than her)		
He is younger than her	0.00677 (0.0440)	0.0738 (0.0525)
He has the same age as her	0.0574 (0.0488)	0.0199 (0.0580)
Education gap between the respondent and her husband (Reference Category: they have the same education level)		
He has higher education by two or more levels	−0.0410 (0.0388)	−0.130*** (0.0465)
He has higher education by one level	−0.0201 (0.0231)	−0.0699** (0.0276)
He has lower education by two or more levels	0.0136 (0.0483)	0.00401 (0.0576)
He has lower education by one level	0.0327 (0.0261)	0.0223 (0.0311)
Husband's employment status (reference category: no job)		
Wage worker	−0.0376 (0.0358)	−0.00578 (0.0424)
Employer/self employed	−0.0710* (0.0386)	−0.0821* (0.0456)
Demographic characteristics		
Regional residence (reference category: Metropolitan region)		
Urban Lower region	−0.126*** (0.0332)	0.0342 (0.0392)
Urban Upper Region	−0.416*** (0.0353)	−0.144*** (0.0379)
Rural Lower Region	−0.178*** (0.0283)	0.0404 (0.0327)
Rural Upper Region	−0.415*** (0.0352)	−0.120*** (0.0378)
Observations	5,222	5,222

Table III. Estimated coefficients of the decision power and mobility regressions

Notes: Standard errors in parentheses; ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

as measured by decision-making power. However, the impact on decision-making power is more pronounced than on mobility. Finally, her own contribution and her parents' contribution to marriage costs had a positive impact on empowerment as measured by the two indicators. However, social resources do not have the same impact on mobility as on decision-making power.

Concerning economic resources; all education categories -as compared to being illiterate-were found to have no significant effect on our two dimensions of empowerment. This surprising result may be explained by the fact that the education system in Egypt is not playing the expected role in transforming ideas and norms of the society towards more equitable gender roles. While for the respondent's employment status, our results showed that being employed in 2006 has a significant positive impact on the respondent's two empowerment's dimensions. Her households' wealth level has no significant impact on the respondent decision making index. But being in the fifth wealth quintile decreases her mobility.

Social constraints are playing an important role in Egyptian women's empowerment. Living with her mother in law decreases her decision-making power and mobility. While living with an adult son had a positive and significant effect on the decision-making power but a negative insignificant effect on mobility. The number of children a woman has can be considered as an asset for her empowerment; the higher the number of her children the more empowered she is, when empowerment is measured by mobility. However, it has a positive but insignificant effect on empowerment as measured by decision-making power.

Concerning husband's characteristics., the age gap between the respondent and her husband has no significant impact on her two dimensions of empowerment. Generally, as compared to a respondent whose husband has same education level, being married to a more educated husband than herself has a negative effect on empowerment. This effect was significant for women's mobility but insignificant for her say in the household. While a husband with a lower level of education has a positive but insignificant effect on his wife's two dimensions of empowerment. It is worth noting that those results hold no matter how much higher or lower is the level of education of husbands compared to his wife. Concerning a husband's employment, an employed husband as compared to an unemployed husband has a negative impact on his wife two measures of empowerment. However, this effect is only significant for the employer or self-employed husband.

Finally, the model includes regional dummies for four of the five Egyptian regions covered by our survey. Given the heterogeneity between the different Egyptian regions, including these dummies, allows capturing the characteristic of the community where she lives. For the decision-making aspect, women living in any of the four Egyptian regions included in our model are less empowered as compared to those who live in Metropolitan area. While for the mobility aspect, respondents living in Upper Egypt, rural or urban, are less empowered compared to their metropolitan counterparts.

It worth noting that another version of the two models was estimated without the regional dummies[7]. Comparing the results of the two versions of each model shows that context, measured by regional dummies, was found to be an important determinant of women's empowerment. It was also found that including the regional dummies, to reflect the context where she lives, affects the impact of the economic resources on women's empowerment. Without the regional dummies, being in the third or fifth wealth quintile would increase the respondent's decision-making power. And being in the third wealth quintiles will increase her mobility compared with respondent in the first quintile. Moreover,

the presence of the regional dummies in the model affects the role played by her father's employment and by the education gap between her and her husband on her decision-making power. Such results show that when the community and the social context where the women lives are captured by the model, they play a more significant role in the Egyptian women's empowerment, compared with the economic and social resources.

To sum up, we can conclude that our results came in line with the literature; age, employment, parents' employment and community context appeared as significant determinants of empowerment. Further, most of these determinants, showed varying impact depending on the dimension of empowerment studied.

6. Discussions and conclusion

This study tackles the question of women's empowerment in highly patriarchal societies like Egypt. Specifically, the study tries to answer the following question: which resources and social constraints determine women's empowerment as measured by the power of women over household decisions and her freedom of movement? Based on our theoretical framework, we proposed three hypotheses.

Findings partially support *H1* in the case of power over household decisions, being a daughter in-law, decrease a woman's decision-making power while living with an adult son increase it and surprisingly increase in number of children is irrelevant. Findings with regards to being a daughter in-law are also consistent with other studies (Balk, 1994; Yount, 2005). For mobility, results were more consistent with hypothesis (1) living with parents-in-law and having more children decrease woman freedom of movement while living with an adult son has no effect. One explanation for the positive effect of living with an adult son on decision-making power is that according to Egyptian norms and culture, being the mother of a son gives the woman more prestige and power as compared with those without a son. It is also common that being the mother of a married son give her more power relative to her daughter-in-law.

Concerning economic resources, husband's education results for the decision-making power came in line with *H2* education status of husbands was irrelevant for his wife's decision-making while for mobility contrary to *H2* women whose husbands have a higher level of education as compared to those whose husbands have same level of education have lower mobility.

Furthermore, not totally in line with *H2*, husbands' employment status effect depends on the husband's type of employment. Compared to a no job husband, husbands who are employer or self-employed had a negative effect on both decision-making power and mobility of his wife while wageworker husbands have no effect (this wage worker case matches *H2*). Concerning household's wealth, results for decision-making power came in line with *H2* as wealth was irrelevant for that dimension but for mobility only richest woman are less mobile than those in the poorest quintile.

These results suggest that *H2* is applicable for decision-making power while it is less applicable for mobility. That is husbands' economic resources as measured, by his education and employment status, and of the household, as reflected by household standard of living, are irrelevant to a woman's decision-making power i.e. overt power. While for mobility, i.e. covert power, it has a more pronounced negative effect. This could be explained by the nature of patriarchal communities and the dominant influence of norms and traditions in such communities where husbands would care about social image *vis-à-vis* the society, so this is reflected on restricted mobility (covert power) of wives in the same time where it is irrelevant when it comes to household decisions (overt power) which is less exposed to the external society. These results also highlight the multidimensional aspect of women's

empowerment as various factors have different effects on different empowerment dimensions.

Contrary to *H3*, formal education was found to be irrelevant for both household decisions and mobility. On the other hand, and consistent with *H3*, employed women have higher decision-making power and higher freedom of movement. The higher the women's and her family's contribution to marriage costs, the higher her empowerment. Moreover, parents' characteristics had an important positive role. Employed fathers increase his daughter's empowerment however the effect was more relevant for mobility. In line with the literature, employed mothers also increase daughter's empowerment, but mother's employment had a stronger effect than father's employment. Moreover, contrary to father's employment the effect of mother employment was more pronounced for decision-making power compared to mobility.

Such results suggest that women's empowerment is more affected by resources, both economic and social, than constraints. Moreover, the effect differs according to type of resources; employment status, share in marriage costs and her parents' characteristics are more influential and more relevant to women's empowerment than women's access to non-customary resources like formal education. Several explanations could be proposed here. First, this may be explained by the fact that what really matters to empowerment is control over resources and actual earnings i.e. that a woman earn income independently which is captured by the share in marriage costs and employment status and not education. This could be especially true given the fact that in Egypt although women have relatively been doing very well when it comes to education in recent years, their labor force participation rates are very low. Hence, females' education in Egypt is not translated to earnings. Second, although it is believed that empowerment is related to awareness, norms and ideas that could be formed or transformed through education, in Egypt education system suffers from various challenges related to quality that may hinder this role. Previous studies point out that less than 50 per cent of ever-married Egyptian women of reproductive age agree that education is a mean to prepare women for marriage not only for work (El-Zanaty *et al.*, 1996).

Finally, social context as captured by the regional dummies is found to have a significant impact on both dimensions of woman empowerment investigated. Not only living in any region in Egypt as compared to greater Cairo decreased both woman decision-making power and mobility but also the impact of other factors on both dimensions was affected. Therefore, in addition to the individual, households, socio demographic and socio-economic characteristics, local context should be considered when analyzing determinants of women's empowerment. Hence, future research tackling this issue should focus on the regional and social context. This later should not only be captured by the regional dummies; other regional characteristics should be included to determine the channels through which context can affect women's empowerment.

Accordingly, the results of this study provide evidences concerning the conditions under which Egyptian women's empowerment could be enhanced and translated into improved life chances for them. Three key messages could be delivered in that regard. First, women own economic resources as captured by her employment status are an important source of her empowerment. Second, contrary to theoretical prediction education is not playing its expected role in developing awareness and transforming ideas concerning gender roles in a patriarchal society like Egypt. Third, the importance of social local context is fundamental. Legal, social and institutional arrangements reinforce both women and men's perceptions of gender roles and the benefits of patriarchal relationship in societies like Egypt.

Consequently, policies should work on encouraging female education and reforming the educational system by augmenting it with materials that transform local ideas to redefine the boundaries of women's lawful social identity beyond patriarchal relationships, reshape perception of gender roles to be more equitable. Moreover, female labor force participation and employment should be encouraged, hence policies should reform labor markets so that women have greater flexibility in the timing of marriage and employment, enhance female entrepreneurial skills and facilitate their access to finance so that women's productive work is considered as compatible to that of men. Finally, since women's empowerment is a multi-dimension phenomenon it should be tackled with caution and cannot be grouped or aggregated. Formulating policies to enhance women's empowerment in Egypt need to tackle different dimensions separately where some policies may be appropriate for tackling various dimensions while others would only tackle specific ones. For instance, tackling the freedom of movement dimension requires increasing access to safe means of transportation and providing services such as street lighting and nearby childcare. While both the decision-making power and the freedom of movement dimensions require policies and actions targeting raising awareness of the importance of women's role in the household and the whole community. Such campaigns should be provided by the different stakeholders; the government, the civil society, schools and universities, international organizations and the religious personnel whom should all cooperate with female community leaders who are in closer contact with women, especially in rural areas.

Notes

1. Hoddinott and Haddad 1995; Roushdy 2004; Kishor and Gupta 2004; Namoro and Roushdy 2009; and Upadhyay and Karasek 2010.

2. Anderson and Eswaran 2009; Malhotra and Schuler 2005; and Yount *et al.* 2015.

3. (Hashemi *et al.* (1996); Malhotra and Mather (1997); Mason (1998); Zaman (1999); Jejeebhoy (2000); Mason and Smith (2000); Jejeebhoy and Sathar (2001); Parveen and Leonhäuser (2005); Kamal and Zunaid (2006); Gupta and Yesudian (2006); 200 Allendorf (7); Anderson and Eswaran (2009); Khan and Awan (2011); Varghese, 2011).

4. The macro level determinants are investigated further in Assaad *et al.* (2015), where we measured those determinates using community level variables that capture norms and traditions.

5. More details about the decision-making indicators and mobility indicators and their answers are available in Appendix 2.

6. Questions related to decision-making and mobility were asked to married women aged between 15 and 49 years old.

7. The estimated results of the model without the regional dummies are presented in Appendix E.

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Corresponding author
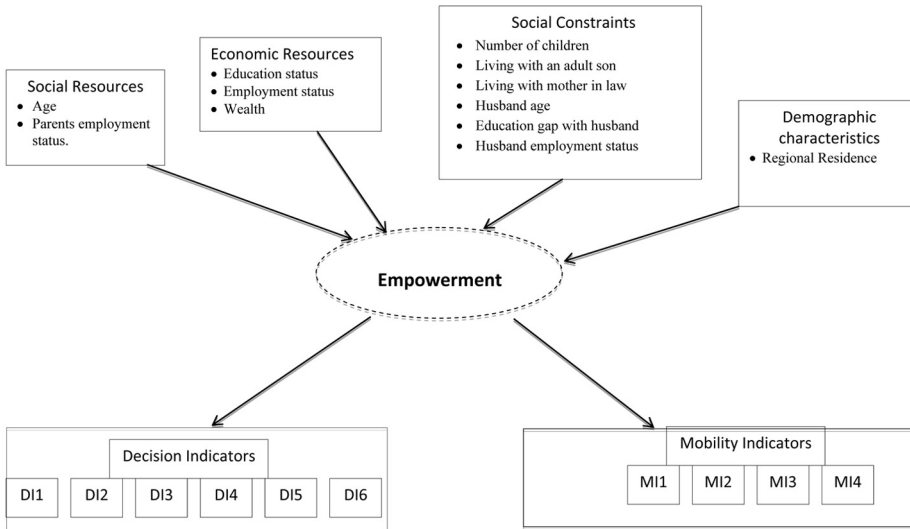Hanan Nazier can be contacted at: hanan.nazier@feps.edu.eg

Appendix 1

Figure A1.
MIMIC Model

Appendix 2. The decision and mobility indicators and their answers

Decision-making indicators include the following six questions:

 (1) DI1: Who has the final say on making large household's purchase?
 (2) DI2: Who has the final say on making household's purchase for every day?
 (3) DI3: Who has the final say on your own visits to family and friends?
 (4) DI4: Who has the final say on what food should be cooked?
 (5) DI5: Who has the final say on getting medical treatment for herself?
 (6) DI6: Who has the final say on getting clothes for herself?

Each indicator may take one of the following values:

 • 2 if the respondent takes the decision alone.
 • 1 if the respondent takes the decision with someone else (husband, father, mother [. . .] etc).
 • 0 if she is not involved in the decision at all.

For the mobility indicators, it includes the following four questions:

 (1) MI1: Do you need permission to go to local market?
 (2) MI2: Do you need permission to go to local health center?
 (3) MI3: Do you need permission to take children to health center?
 (4) MI4: Do you need permission to go to friends or relative house?

Each indicator may take one of the following values:

 • 4 if she needs no permission
 • 3 if she needs to just inform them.
 • 2 if she need permission.
 • 1 if she cannot go alone.

Appendix 3

Table AI.
Estimated impact of empowerment on the different indicators for mobility (MIMIC)

	DI1	DI2	DI3	DI4	DI5	DI6
Empowerment	1(0)	2.048***(0.116)	1.589***(0.0781)	1.693***(0.0948)	1.609***(0.0813)	1.610***(0.0825)
Observations	5,222	5,222	5,222	5,222	5,222	5,222

Notes: Standard errors in parentheses; ***$p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table AII.
Estimated impact of empowerment on the different indicators for mobility (MIMIC)

	MI1	MI2	MI3	MI4
Empowerment	1(0)	2.723***(0.170)	1.549***(0.0709)	1.195***(0.0541)
Observations	5,222	5,222	5,222	5,222

Notes: Standard errors in parentheses; ***$p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Appendix 4

Variables	Decision Empowerment	Mobility Empowerment
Social resources		
Respondent's age	0.0546*** (0.0105)	0.0564*** (0.0122)
Respondent's age squared	−0.000611*** (0.000157)	−0.000728*** (0.000183)
Father's employment status (Reference category: unpaid family worker/no job)		
Wage worker	0.174** (0.0729)	0.220*** (0.0844)
Employer	0.145* (0.0745)	0.211** (0.0862)
Self-employed	0.157** (0.0767)	0.180** (0.0888)
Mother's employment status (Reference category: no job)		
Wage worker	0.0981*** (0.0375)	0.0378 (0.0432)
Employer/self-employed	0.216*** (0.0740)	0.0643 (0.0848)
Unpaid family worker	0.143*** (0.0445)	0.0758 (0.0512)
Share of marriage cost	0.248*** (0.0563)	0.202*** (0.0646)
Economic resources		
Respondent's education (Reference category: Illiterate)		
Literate/Basic – Intermediate Education	−0.0108 (0.0292)	0.0229 (0.0338)
Secondary education	0.0146 (0.0291)	0.00359 (0.0336)
Post-Secondary – Post University Education	−0.0270 (0.0385)	−0.0780* (0.0446)
Respondent was employed in 2006	0.0160 (0.0226)	0.0227 (0.0261)
Respondent's wealth status (Reference Category: First quintile)		
Second quintile	0.0355 (0.0254)	0.0107 (0.0293)
Third quintile	0.0421* (0.0239)	0.0497* (0.0277)
Fourth quintile	0.0268 (0.0255)	0.00936 (0.0295)
Fifth quintile	0.0479*** (0.00900)	−0.0136 (0.0102)
Social constraints		
Are you daughter in law?	−0.354*** (0.0438)	−0.130*** (0.0486)
Do you have an adult son living with you?	0.0821** (0.0339)	−0.0161 (0.0390)
Number of children	−0.0176** (0.00706)	0.0523*** (0.00841)
Age gap between the respondent and her husband (Reference category: he is older than her)		
He is younger than her	0.0322 (0.0447)	0.0829 (0.0518)
He has the same age as her	0.0491 (0.0495)	0.0162 (0.0573)
Education gap between the respondent and her husband (Reference category: they have the same education level)		
He has higher education by two or more levels	−0.0658* (0.0394)	−0.142*** (0.0459)
He has higher education by one level	−0.0177 (0.0235)	−0.0688** (0.0272)
He has lower education by two or more levels	0.0416 (0.0490)	0.0174 (0.0568)
He has lower education by one level	0.0584** (0.0265)	0.0306 (0.0306)
Husband's employment status (reference category: no job)		
wage worker	−0.0372 (0.0364)	−0.00230 (0.0418)
Employer/self-employed	−0.0831** (0.0391)	−0.0793* (0.0450)
Observations	5,222	5,222

Notes: Standard errors in parentheses; ***$p < 0.01$, ** $p < 0.05$, *$p < 0.1$

Table AIII.
Estimated
coefficients of the
decision-making and
mobility regressions
without regional
dummies