

Job Opportunities and Women's Empowerment in Egypt

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Abstract

This paper provides a better understanding of the determinants of a woman's participation in the household decision-making process, by focusing on the role of women's economic participation. If women's employment is considered as a major source of empowerment, existing evidence suffers from several limitations, which I attempt to address. First, I develop an instrumental variable strategy to take into account the endogeneity of the decision to work. Second, because the Egyptian female labor market is highly segmented, I allow for a heterogeneous impact of work by distinguishing between the public sector, outside work in the private sector and home-based work. Third, I measure women's empowerment as the probability to have the final say in a household decision in two ways. Using the 2006 and 2012 rounds Egyptian Labor Market Panel Survey, I run both probit and recursive bivariate probit regressions of the impact of different types of work on women's involvement in decision-making. I find that working outside home enhances a woman's autonomy in personal decisions, and joint decision-making over major economic and children-related decisions. Interestingly, home-based work positively affects joint decision-making. My results suggest that, beyond remuneration, women's work acts as a signal on women's abilities in non-domestic spheres of competence.

Keywords: Women empowerment, Employment, Household decision-making

JEL: D13, J16, J21

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1. Introduction

Women's empowerment represents a major challenge for development and economic growth (Duflo, 2012). As a result, promoting gender equality is part of the main headlines of development programs, such as the Millennium Development Goals (UN, 2000) and the forthcoming Sustainable Development Goals (UN, 2015). Indeed, in addition to its intrinsic value, women's empowerment can in turn contribute to the process of inclusive growth; by enhancing economic growth and overall productivity (Dollar and Gatti, 1999; Knowles, 2002; Klasen *et al.*, 2008; Esteve-Vollart, 2009) and by strengthening the capabilities of the next generations (e.g. Thomas, 1994; Quisumbing and Maluccio, 2003; Hou, 2011; Lépine and Strobl, 2013).

To reach this goal, we need a full understanding of the determinants of women's empowerment. Women's access to employment is one of the most frequently mentioned. However, this relationship is not straightforward. The impact of work depends on its location (Kantor, 2003) and form (Anderson and Eswaran, 2009). Access to paid work can lower women's power by increasing domestic violence, as found in Bangladesh (Heath, 2012). To date, evidence suffers from several limitations. These studies do not take into account both the heterogeneity of work occupation and the endogeneity of the decision to work.² Moreover, they are often based on limited measures of women's power.

The aim of this paper is to address these issues in an empirical investigation of the impact of women's economic activity on their empowerment in Egypt. The female labor force participation in Egypt is one of the lowest of the world (24% in 2012 according to ILO). As a result of the political and economic development of the country, in addition to strong cultural barriers, the female labor market is highly segmented between the public sector, outside work in the private sector and home-based work.³ Therefore, it offers a relevant setting for the exploration of differential impacts of work.

I take advantage of the 2006 and 2012 rounds the Egypt Labor Market Panel Survey (ELMPS). This is a longitudinal nationally representative survey that includes a detailed module on employment, as well as direct indicators of women's decision-making power. These indicators consist of women's participation in economic, personal and children-related decisions in the household. In addition to baseline probit regressions, I introduce instrumental variables in recursive bivariate probit regressions to address the endogeneity of the decision to work. These instruments correspond to lagged characteristics of the local labor market. Summary statistics support the choice of separate analyses between employment in the public sector, outside work in the private

²One exception is the paper of Anderson and Eswaran (2009), but their focus is limited on rural households in which women work both on the market and on the family farm.

³In 2012, 44% of working women occupy a job in the public sector, 24% are home-based workers and the remaining part is working in the private sector outside the home (ELMPS, 2012).

sector and home-based work. To provide a better understanding of women's participation to decision-making, I also consider separately sole and joint decision-making.

My results reveal heterogeneous impacts of work occupations. I find that outside work, either in the public or in the private sector, enhances a woman's autonomy in her personal sphere of decisions and joint decision-making on the main economic decisions. Their impact differ on children-related decisions, supporting the greater compatibility of public sector employment with family life. Once I address the endogeneity of the decision to work, I show that home-based work increases joint decision-making on economic and children's schooling decisions. Contrary to earlier results in the literature, it suggests that the impact of work on women's power goes beyond that of earnings. I argue that a woman's work acts as a signal on her abilities in other domains of competence than the domestic sphere.

My approach is in line with recent developments in the literature of intra-household bargaining (for a comprehensive review, see the book of Browning et al., 2014). The possibility of bargaining between the members of a household has first been ignored by economists, who modelled household preferences by a unique utility function, known as the unitary model (Becker, 1973, 1981). In this approach, the decision-making process consists in the maximization of this utility function under a budget constraint corresponding to the pooled income of household members. This model has been rejected repeatedly both on the theoretical (e.g. Manser and Brown, 1980; McElroy and Horney, 1981) and empirical grounds (e.g. Lundberg et al., 1997; Browning and Chiappori, 1998; Duflo, 2003), leading to the acknowledgement that bargaining could occur between household members and that each member's weight in these negotiations would affect the resulting household allocations. In a game theory approach, the behaviour of the spouses is described as determined by the comparison of each spouse own outcomes in the case of marriage relatively to the break-down situation, also referred as the outside or threat option. One strand of models, cooperative models, considers divorce as the outside option (Manser and Brown, 1980; McElroy and Horney, 1981; Chiappori, 1988; 1992). Another strand argues that non-cooperative behaviour can be observed within the marriage, known as non-cooperative models.

Such models are particularly attractive in cultural settings where spouses face unequal rights regarding divorce, or will not envisage it because of its low social acceptance and the risk of social exclusion it implies, as it is still the case in Egypt⁴. The study of Anderson and Eswaran (2009) supports their relevance for developing countries, by confirming the predictions of a non-cooperative model with data on rural Bangladesh. However, these models imply an inefficient decision process, which may be hard to defend in a setting of repeated interactions. Efficiency is based on the knowledge of each partner's preferences and symmetry of information (Browning et

⁴If divorce laws have been modified in 2004, improving women's situation, they still face an unequal position in front of divorce. The divorce rate is of 2,2% in 2012 (CAPMAS, 2013).

al., 2014). First, I argue that information asymmetry on each partner's abilities may lead to inefficient choices in household production and decision-making. In this direction, Browning et al. (2011) suggest departure from efficiency when behaviors result from traditional norms not adapted to the current society. Second, I consider women's economic activity as a distribution factor, in the sense that, once changes in the household income have been controlled for, it affects the share of power without affecting preferences. Its effects goes through a change in relative income and a change in perceptions of the family members on a woman's abilities (Browning et al., 2014; Sen, 1987). But the endogeneity of the decision to work may induce inefficiencies (Basu, 2006). I do not provide a formal framework of the mechanisms at play, which would allow me to test for the relevant model. Instead, I choose to refer to a more general setting recently developed by d'Aspremont and Dos Santos Ferreira (2014), in which cooperative and non-cooperative behaviors co-exist as extreme cases in a unified framework that allows for intermediate cases of "semi-cooperation".

To my knowledge, the heterogeneity of work occupations, and its consequences on women's empowerment, has largely been overlooked in the literature. The studies exploring this issue tend to focus on particular settings, sector of activity or work location, and lack of viable comparative groups. Among them, Kantor (2003) investigates the impact of home-based work by conducting a quantitative survey on home-based garment producers in Bangladesh. She finds that this work location facilitate women's work monitoring by other family members and their access to women's earnings. As a result, she shows that women are more likely to lose control over their income when these earnings are high. Thus, women's income do not guarantee greater power. In another study (Kantor, 2009), she extends her investigation to six categories of work (waged, subcontract, own account, casual and unpaid work, and domestic service) in the context of Lucknow in India. She compares their impact with not working on women's participation to household financial decisions. She finds that none of these categories affect women's participation in the decision on large purchases and that only salary work is positively associated with savings decisions. She argues that social norms limit women's work opportunities and their role in decision-making. Thus, these limitations and the low returns from their activities do not allow to overcome these norms. In a broader context, Kabeer *et al.*(2013) distinguish between five types of employment in Egypt. They conclude that formal employment is more heavily associated with women's empowerment indicators than other types of employment, followed by informal outside self-employment and by outside waged work. However, the sample size of both studies is limited and they ignore the potential two-ways causality between women's work and power.

Rammohan and Johar (2009) address the latter issue by instrumenting women's work by their past labor force experience in their analysis of women's autonomy in Indonesia, but only consider one type of employment. One notable study addressing both challenges is that of Anderson and Eswaran (2009). They focus their analysis on

a sample of rural women in Bangladesh working on the labor market and as unpaid help on the family farm, and instrument women's months worked and earned income by agricultural and health shocks. They find that only outside paid work increases women's involvement in decisions on item purchases. In this paper, I want to extend such an analysis to a broader context considering exclusive work occupations that differ along their conditions of access and their characteristics. I also consider a broader range of household decisions which I argue to better capture women's empowerment.

The remainder of the paper is organized as follows. I first briefly provide an overview of women's situation and recent achievements in Egypt. Next section exposes my conceptual framework. Section 4 describes the data, my measure of women's empowerment and descriptive statistics on variables of interest. Section 5 presents my empirical strategy, followed in section 6 by a summary of the main results. Finally, in the last section, I end on a few concluding remarks.

2. Egyptian Background

2.1. A brief assessment of women's rights

In the World Economic Report of 2012, Egypt was ranked 124 out of 132 countries in terms of opportunities and economic participation of Egyptian women. Despite substantial improvements, especially in education, gender gaps are slowly reducing in Egypt and still represent a major issue. Women's rights can be in practice limited by a lack of proper implementation. In a Family Court, a woman's testimony is worth less than a man's. Notably, domestic violence and sexual harassment in public spheres against women are not well addressed by the law. Women are poorly represented in the political sphere, holding, for instance, only 2% of seats in the Parliament in 2011. They still face a differentiated access, in comparison with men, to human capital endowment and economic opportunities. If female school enrolment rates are increasing faster than those of males, a higher proportion of girls do not enter school at all. The last improvements in Egyptian women's legal rights revealed a particular focus of its advocates on women's situation in the private sphere and the need to further reform the personal status. In this context, understanding how to enhance Egyptian women's power at the household level is of particular interest.

2.2. The Egyptian female labor market

Women face specific barriers to entry in the labour market. While the development of international trade has been a major source of female employment in several countries, Egypt has exhibited a de-feminization of its work force. In a descriptive analysis based on two Egyptian nationally representative surveys of 1988 and 1998, Assad (2002) argues that the role of oil exports and remittances in the economic growth, because of their impact

on the real exchange rate, led to a reduction of other traditional export sectors, and to the expansion of largely male-dominated non-traded sectors. An employment guarantee scheme for secondary school and university graduates in the early 1960's and its attractive work conditions made the public sector the main employer of women. Its suspension in the 1990's contributes to the steady rise of unemployment among which women are over-represented⁵. Political instability that followed the January 2011 uprising and the 2008 economic crisis exacerbate this trend by slowing down economic growth. Women's options are further constrained by traditions that restrict their mobility and attaches importance to their role in the domestic sphere (Mensch et al., 2003; Assaad and Arntz, 2005). Combined with poor information about loans and training opportunities, women's own businesses often consist in small home-based enterprises, whose benefits tend to be reallocated to the household instead of being reinvested into the activity (Guenena and Wassef, 1999).

Therefore, the female Egyptian labor market appears highly segmented. On one hand, the public sector tends to be the only type of work socially accepted among the most educated women (Assaad and El-Hamidi, 2009). Indeed, the flexibility of working hours in the public sector allows the combination of work with family life and thus, is in conformity with traditions. The decline of the public sector created a phenomenon of queuing among women who achieved high education, the latter preferring to exclude themselves from labor force participation rather than entering the private sector. If involvement in the private sector can be perceived as socially degrading, it is virtually the only option offered to women with less than secondary education. Women can also choose to turn to self-employment, or join the household enterprise in the presence of the latter. Both activities can be exercised from home, allowing its greater acceptance among households in which women cannot access the public sector. The characteristics of work, the conditions of access and the social norms associated to these different occupations suggest an important segmentation, with limited mobility between those groups.

3. Conceptual framework

3.1. Expected impacts of a woman's participation in an economic activity on household decision-making

There are two essential mechanisms through which a woman's employment is expected to enhance her decision-making power. First, access to earnings increases a woman's outside options (Browning et al., 2014). Second, a woman's activity can modify her perceptions, and that of other household members, of her contribution and interests within the household (Sen, 1987). This second mechanism can result from a woman's exposure to the outside world and from the household members' exposure to her abilities in other areas than domestic work. I argue that the spouses can have asymmetric information about each other's capacity to manage finances

⁵According to ILO (2014), the female unemployment rate is of 27,1% in 2012 while that of male's is of 7%.

and planning for the long-term. In such a setting, it might be a rational choice, for a risk adverse individual, to remain the sole decision maker, if he thinks he is the most able to take this responsibility. Then, signalling on one member's ability is expected to enhance his inclusion in these decisions. Overall, those impacts will depend on the orientation of work (market or subsistence), form (paid or unpaid) and location (outside work or home-based) (Sen, 1987).

The gender system within which a woman is evolving can impede her access to some activities and work occupation. Prevailing social norms affect women's engagement in different types of work, but social norms can also mitigate the way women's work impact their power. This "sequentially interlinked bargaining" (Argawal, 1997) calls for the consideration of different types of economic activities, the selection of women in these activities and the local environment to which they belong. Notably, I expect that various activities to have different impacts on household decision-making.

The public sector offers to women employment opportunities that are socially valued. It is also the only sector in which women are neither discriminated in its access nor in its remuneration. I expect that participation to employment in the public sector enhance women's involvement in the decision-making process through an access to earnings and to a new social network. However, this type of work could have a limited impact on a woman's attitudes towards gender role. Indeed, because of high acceptability of this type of work, women engaging in the public sector could be issued from more traditional households, which might be associated with more patriarchal norms.⁶ These social norms define the responsibility of the household's prosperity and major decisions as those of the husband.

Women's engagement in outside work in the private sector is first expected to enhance their decision-making power. However, because it tends to be seen as degrading, a husband may not fully accept his wife's participation. He could then try to offset these potential benefits by further excluding his wife from the decision-making process, if he feels threatened by an increase in his wife's bargaining power or concerned about his wife's reputation. The way involvement in this type of employment would affect women's empowerment depend on the reasons that brought women to this sector of activity.

Home-based work can be considered as part of a woman's domestic work and obligations, leaving this participation unable to challenge the balance of power between family members (Sen, 1987). Kantor's findings (2003) underlines the importance of work location, as it can facilitate the monitoring and the access to its benefits by other family members. Anderson and Eswaran (2009) find that woman's unpaid work on the household farm in

⁶This hypothesis is supported by the emergence of a new veiling movement, in the 1970's, originated in universities and among women working in the public sector (Carvalho, 2013). Carvalho argues that it allows these women to both comit to religious standards of behavior and seize new economic opportunities.

rural Bangladesh does not affect her involvement in different purchases decisions. However, the particularity of the context and of the selected indicators of these studies prevent me to conclude for the absence of an impact of work beyond that of earnings. I consider that exposure to women's abilities, in a different sphere than that of domestic work, can impact her participation in joint decisions in which such capacities are expected to matter.

3.2. The endogeneity of the decision to engage in an economic activity

Women's involvement in the labor force can result from previous bargaining with their husbands, which would affect in turn their future relative share of power (Basu, 2006). The possibility of a reverse causality between women's decision-making power and employment threatens the identification of the impact of the latter, by introducing an endogeneity bias. However, the reasons that would push a woman towards an activity or another are likely to differ.

As already stated, the public sector is highly valued and attracts the more well-off segments of the society (Assaad and El-Hamidi, 2009). Being restricted to the most educated women, educational background appears as the main determinant of involvement in this sector. Working in the public sector is associated with a variety of advantages regarding working hours and social protections, notably for maternity leaves. While women tend to quit their jobs upon marriage, women previously engaged in the public sector are more likely to keep it after marriage, underlying its compatibility with the family life (Sayre and Hendy, 2013). Therefore, engaging in the public sector is not in conflict with the traditional role of women, defined as the daily management of the household and taking care of children. It suggests that a woman does not need to bargain over this decision. Thus, reverse causality should not threaten the reliability of my results. Nevertheless, if households in which women engage in the public sector do tend to have more conservative values, this omitted aspect could bias our estimations.

Turning to outside employment in the private sector, the expected impact of previous decision-making power over this decision is more mixed. On one hand, this type of work can be perceived as socially degrading. In Egypt, a woman loses her alimony rights if she engages in an economic activity in the opposition of her husband or to the interest of the family (World Bank, 2014). Thus, I expect women who successfully engage in this activity to be previously more empowered than not working women, over-estimating the impact of work. On the other hand, Hoodfar's ethnographic work on Cairo (1997), makes her conclude that traditions and conservatism do not refrain women from entering employment when the conditions of the labor market are favourable. Thus, controlling for residence location could simultaneously capture greater opportunities and greater acceptance of this type of work. Then, previous power may appear irrelevant to the decision to enter the labor force.

Home-based employment consists in self-employment, participation to a non-agricultural household enterprise or to the family farm. Involvement in this type of work is likely to reflect a solution to economic hardship

in an environment in which other employment opportunities are limited. According to the two first rounds of the Egypt Labor Market Panel Survey, household enterprises played a significant role in absorbing excess labor supply for both men and women (Assaad, 2007). In her qualitative work in Lucknow in India, Kantor (2009) highlights the acceptability of home-based work, which is described as representative of appropriate work by women in the focus group discussions. Its acceptance is in line with more traditional values, which look down upon women evolving in male environment, as it is usually the case in the private sector outside the home. As for the public sector, if belonging to more traditional households is not fully captured by my specification, this omitted variable would underestimate the impact of work.

4. Data and descriptive statistics

4.1. The Egypt Labor Market Panel Survey

This analysis is based on a longitudinal and nationally representative household survey, the Egypt Labor Market Panel Survey (ELMPS) administered by the Economic Research Forum in cooperation with the Egypt's Central Agency for Public Mobilization and Statistics. The survey consists in three rounds. A first sample of 4,816 households has been covered in 1998. Among them 3,684 have been followed in 2006, in addition to a refresher sample of 2,167 new households. The last round covers 12,060 households. To account for the possibility of non-random attrition, the data administrators elaborated appropriate weights based on the probability of non-response. Those have also been combined with specific weights for the 2012 round, because of the sampling design of the refresher sample, which intentionally over-sampled areas with high migration rates. Therefore, these weights will be included in the following analysis. More details on data collection, analysis of attrition and the elaboration of weights are available in Assaad and Krafft (2013).

The database contains detailed information on individuals' employment but also covers a variety of topics such as parental background, education, migration, non-work related income, women's subsistence work, status and fertility and specific modules on household enterprises. A new module on women's status, introduced in the 2006 questionnaire and also found in 2012, provides elements of direct evidence of women's bargaining power, applied to all women above 15 years old. Women are asked about their participation in a variety of decisions, concerning household functioning, themselves and their children.

Because the sample of women in different categories of work is of limited size, the panel dimension of the database will not be used. Nevertheless, I take advantage of its longitudinal form by using pooled cross-sections for the rounds 2006 and 2012. The 1998 round is also used for the elaboration of suitable instrumental variables.

ELMPS does not contain data on consumption expenditure. Thus, a wealth index has been elaborated using

Principal Components Analysis. Following Filmer and Pritchett (2001), it is based on assets ownership and housing characteristics, and characterizes a household's economic status.

4.2. Measure of women's empowerment

In this study, I aim to better understand what affects women's ability to influence a variety of household decisions. In reference to the literature on women's empowerment, I want to identify women's ability to make meaningful choices, that are based on the same set of alternatives than that of men and not limited by any material or immaterial barrier (Sen, 1987). If I cannot observe these alternatives, women's ability to make choices can be captured by their participation in household decisions. The family is the primary stage of gender interactions and an unequal balance of power between the couple can prevent one's spouse from participating in decision-making.

The issue of women's empowerment within the family has been investigated by a variety of disciplines. Its appeal in the economic literature emerged later in the 1990's while recognizing potential gender stratification within households and its consequences on their allocation of time and resources. The introduction of modules on women's status in several household surveys from the 1990's allowed researchers to move from proxy indicators to direct indicators of women's empowerment (e.g. Anderson and Eswaran, 2009; Mabsout and Van Steveren, 2010; Chkrabarti and Biswas, 2012). I believe that women's participation in a variety of decisions within the household reflects part of their ability to influence their own lives, that of their family, and overall economic development. Nevertheless, one still need to make assumptions about how to use those variables. Different decisions will not be equally representative of relative bargaining power and of the same incidence on the household functioning.

The ELMPS asks women who has the final say on a variety of household's decisions, described in Table ?? of the Appendix. The sample sizes vary for children-related decisions because they have only been answered by women currently facing the situation. I choose to follow Anderson and Eswaran (2009) in analysing separately each decision, possibly indicative of different dimensions of empowerment. I identify a first sphere of decisions relating to economic decisions, consisting of large purchases, daily purchases and the food that is daily cooked. These two latter decisions ensure the household's daily stability and are of low incidence for the long-run. Thus, they are traditionnally in the hands of women. At the opposite, the large purchases consist in an investment decision. Because of its potential incidence on the future of all household members, women tend to be excluded from it. In our sample of 15,022 married women, 43,19% declared that their husbands and themselves, jointly, have the final say on the decision of large purchases, while 46,22% of our sample answered that only their husband has the final say. As another group of decisions, a woman's visits to family or friends, own health and own clothing define a woman's personal sphere. Finally, a third sphere of decisions gather decisions on children,

children's schooling, sending children to school on a daily basis, children's health and children's clothing. Children's schooling and health consist of investment in children's human capital, which has already been presented as a potential insurance mechanism for old-age security (Duflo, 2003). As a result, women tend to be excluded from the decision over children's schooling. 28,69% of the 7,658 women having at least one child going to school, decide jointly on dealing with children's school and teachers, while 48,35% indicated their husband as the sole decision-maker. Sending children to school on a daily basis belongs to the daily management of the household. If more women have the responsibility on this decision (34,09%), 40,09% of my sample declared that their husband were the sole decision-maker. The decision on children's clothing, as that on a woman's own clothing, is believed to be mostly determined by earnings.

The concept of empowerment contains also a dimension of change that is not captured by this approach. Therefore, what I measure is more specifically women's decision-making power at a particular moment of their life time. An increase in the probability that a woman is involved in those decisions is interpreted as a greater ability to influence her own life and that of other household's members. In a second step, I distinguish between sole and joint decision-making. If a woman's empowerment tends to be defined by greater autonomy, it could also reflect greater neglect from the husband for household matters, as suggested in the study of Lépine and Strobl (2013) in Senegal. Sole decision-making on the personal sphere of decisions can be argued as a more desirable situation. However, I rather focus on joint decision-making on decisions that have an incidence on other household members, such as the economic and children-related decisions. In the context of Indonesia, Fernandez et al. (2015) find that collaboration between the husband and his wife on financial decisions is associated with greater subjective well-being. They relate this result to the potential pressure associated with having the sole responsibility of major household decisions. This approach is further supported by the fact that, in Egyptian culture, negotiation and interdependence may be more valued than autonomy and independence (Govindasamy and Malhotra, 1996).

4.3. Comparison with other measures of women's empowerment

This measure of empowerment is based on self-reported perceptions of autonomy. As a result, one can cast doubts on its ability to capture a real influence on household decisions and women's lives. Other studies make use of similar variables and find that a woman's greater participation in household decisions improves a variety of children's outcomes, such as schooling (Hou, 2011), health (Lépine and Strobl, 2013) and a decrease of child labor (Reggio, 2010). Still, in order to reinforce confidence in these variables, I compare them with other potential measures of women's power.

I compute scores on sole and joint decision-making for each sphere of decisions. These scores range from 0 to 3 for the economic and personal decisions, and from 0 to 4 for children-related decisions. A woman has a

score of 0 is she does not have the final say in any of the decisions of the sphere of interest. If she decides alone in every of the decisions of this sphere, she scores 3 or 4 in sole decision-making. First, I explore the relationship between these scores and other self-reported indicators of power, which are having a direct access to household money, being afraid of disagreeing with your husband or other males in your household and a score reflecting positive attitudes toward women ranging from 0 to 11. Details on these questions are available in Table ?? in the Appendix. The two latter indicators are only available in the 2006 round of the ELMPS. Therefore, the sample is reduced to 6,027 observations for the economic and personal decisions, and to 2,974 observations for children-related decisions. Figure ?? illustrates the predicted probabilities of these indicators from the estimation of a fractional polynomial of scores of decision-making. The coefficients of probit and linear regressions of these scores on these indicators are shown in Table ?? in the Appendix. Looking at Figure ??, we observe a positive association between a woman's scores in decision-making and the probability that she gets access to household money and that she holds more positive attitudes toward women's role, and a negative association with being afraid of disagreeing with her husband. These correlations suggest an absence of internal dissonance in women's answers. This figure shows a non-linear relationship between a woman's score in joint decision-making and her access to household money. Nevertheless, the effect of scoring more than 2 is not significant in any of the sphere of decisions.

Finally, I confront these variables with the two traditional measures of women's power used in the literature, women's relative education (e.g. Gitter and Barham, 2008) and women's relative income⁷ (e.g. Lancaster et al., 2006). Figure ?? exposes the predicted scores on decision-making from a linear regression of a woman's relative education and a woman's relative income on these scores. The coefficients of these linear regressions are available in Table ?? in the Appendix. A higher number of years of education or a higher wage relative to that of their husband is associated with higher scores in decision-making. However, a woman's relative education does not significantly affect her score of sole decision-making in economic decisions, and her relative wage is not significantly associated with her score of sole decision-making in children-related decisions. Nevertheless, these results suggest a strong association between traditional measures and my measure of power.

4.4. *Economic participation of women*

My main variable of interest is the participation of women in an economic activity. I first consider a woman as working if she declared having participated to any employment during the past three months at the date of the survey. I therefore exclude subsistence and domestic work from this definition. However, women participating

⁷Because a woman's relative income is likely to be endogenous to her decision-making power, most of the literature make use of exogenous changes in relative income.

to the household enterprise or to the family farm, for market purposes, may not consciously consider it as participation to employment. In order to avoid an under estimation of women's work, I also included women who declared taking care of livestock or participating in an agricultural activity in the past three months, for other purposes than household consumption. I also referred to the household enterprise module to identify women involved in non-farm household enterprises.

To lower discrepancies in labor participation among older women, I limit my sample to women aged up to 65 years old. Thus, my final sample consists of 15,022 married women aged between 15 and 65 years old who answered at least to non-children related questions of the decision-making module and for whom I have complete information on the variables of interest.⁸ Among this sample, 23,81% of women are working under the above mentioned definition. To account for heterogeneity of occupations, I choose to distinguish between work in the public sector, outside work in the private sector and home-based work. An important consideration at this point, is if this cutting represents is the relevant one for my purpose. Another possibility could have been to distinguish between the formal and informal sector. Indeed, the latter allows a greater flexibility in working conditions and an alternative to the limited options of the formal market, while preventing them from legal rights and advantages associated with the formal sector. However, I argue that the social stigma associated with outside work in the private sector goes beyond this distinction and the limited size of this group prevents me from further decomposition.

Descriptive statistics on my final sample, depending on the type of work, are presented in Table ?? and reveal clear disparities. On average, working women are four years older than non-working women. This is not surprising when considering the impact of fertility and of the presence of younger children on withdrawing the labor force. Women exercising home-based work have on average a greater number of children present at home. The differences between the three categories of workers are striking when we look at education and household wealth characteristics. Women working in the public sector are over-represented in the two highest categories of education, while 74,81% of women home-based workers have no education. The distribution of education levels among women engaged in outside work in the private sector is closer to that of non-working women, though the proportion of women having achieved at least university education in this first category doubles that of the group of non-working women. The same pattern arises regarding the household economic status. 48,57% of women working in the public sector belong to the richest wealth quintile, while 40,27% of women home-based workers belong to the lowest one. Once more, women working outside home in the private sector are between these two extremes, with a more balanced repartition between the different quintiles. The distribution

⁸I excluded from the analysis polygamous households, which only concerns 88 women.

of spouses' levels of education reveals a high degree of matching in the marriage market. Finally, there are important regional disparities in their repartition. Women working in the public sector are over-represented in urban areas, followed, though at a lesser extent, by women working in the private sector outside the home. At the contrary, home-based workers are almost absent from the most urbanised regions, at the exception of Urban Upper Egypt. Thus, these women greatly distinguish themselves along a variety of characteristics. They further differ in the conditions of work, that are the work environment, number of hours, flexibility and remuneration. For instance, 71,09% of home-based workers are unpaid. All these differences are expected to affect the way a woman's occupation impact her involvement in the household decision-making process.

Table ?? shows the repartition of women's answers to the decision-making module between those groups. For all decisions, women working in the public sector have the highest proportion of joint decision-making. Women working in the private sector outside the home have a higher proportion of sole decision-making, while home-based workers are the most excluded from any decision. Overall, these statistics are suggestive of an empowering impact of outside employment. Still, referring to the previous table, individual, household and environmental characteristics differ between these categories, whose own effects have to be controlled for before being able to draw any conclusions. This is the purpose of the next sections.

5. Estimation strategy

5.1. Recursive bivariate probit model

I am interested in the effect of participating in employment on the probability to be involved in a variety of decisions. The potential endogeneity of women's employment status to decision-making threatens the reliability of simple probit regressions. To overcome this issue, because of the binary nature of both our dependent variables and our endogeneous variables, I also adopt a recursive bivariate probit model (Maddala, 1983; Greene, 1998). The functional form of this model does not require instrumental variables to causally identify the impact of women's employment status on their involvement in decision-making (Heckman, 1978; Wilde, 2000). However, the introduction of exclusion variables is common practice in applied works and reinforces this identification. I assume the existence of a set of instrumental variables \mathbf{Z} that is uncorrelated with the error term ν but correlated with the endogeneous variables, women's employment type, once the exogenous variables have been controlled for. The first equation of the system consists in an outcome equation, in which the dependent variables DM_{jit} are taking the value one if a woman has the final say alone or jointly with other household members, and zero if she is excluded from the decision. This probability for the decision under study j is characterised by a linear combination of her employment status (\mathbf{E}); a vector of own characteristics (\mathbf{X}); a vector of the household's characteristics (\mathbf{H}); and in order to capture specific local conditions and time trends, community fixed effects

consisting in 22 governorates dummies and controls for the year of survey (C). The second equation, the selection equation, describes the probability that a woman participates in an economic activity by a linear combination including the same covariates than in the outcome equation, in addition to an instrumental variable Z . I estimate simultaneously by Full Information Maximum Likelihood the following system:

$$\begin{cases} DM^*_{jit} = \beta_1 + \beta_2 X_{it} + \beta_3 H_{it} + \beta_4 C_{it} + \beta_5 E_{it} + \mu_{it}, & \text{with } DM_{jit} = 1 \text{ if } DM^*_{jit} \geq 0 \text{ and } = 0 \text{ otherwise} \\ E^*_{it} = \alpha_1 + \alpha_2 X_{it} + \alpha_3 H_{it} + \alpha_4 C_{it} + \alpha_5 Z_{it} + v_{it}, & \text{with } E_{it} = 1 \text{ if } E^*_{it} \geq 0 \text{ and } = 0 \text{ otherwise} \end{cases}$$

where j indicates the decision, i the woman and t the survey round; β_1 and α_1 are constants, $\beta_2, \beta_3, \beta_4, \beta_5, \alpha_2, \alpha_3, \alpha_4$ and α_5 are parameters to estimate and μ and v the error terms.

I have $\mathbb{E}(\mu_{it}) = \mathbb{E}(v_{it}) = 0$, $Var(\mu_{it}) = Var(v_{it}) = 1$ and $Cov(\mu_{it}, v_{it}) = \rho$, where ρ is the correlation between the two error terms, allowing interdependence between the two equations.

Standard errors are clustered at the household level in order to adjust for potential correlation within families and across time and all regressions include sampling weights. A Wald test on the independence between the two equations, corresponding to ρ equal to zero, determines the choice of this model over two simple probit models (Greene, 1998). When it does not reject independence between the two equations, I rely on probit regressions of the outcome equation.

A limitation of my empirical strategy is that I do not account for selection into marriage. Indeed, more conflicting couples may separate and this omission could bias my results. However, I lack of reliable exclusion restrictions that would allow me to test this threat. Nevertheless, the concerns are limited by the fact that only 1,79% of women of my database are divorced.⁹ To control for selection in union formation at early ages, I also redo the analysis excluding women below 30 years old, as 97% of women above this age are married. The results are not qualitatively affected by this restriction.

Later on, I want to distinguish between the type of economic activity undertaken, in order to allow for a heterogeneous impact of work. The high segmentation of the Egyptian female labor market, that translates itself in important differences in terms of initial personal characteristics and working environment, supports the need to run separate analysis. To do so, I split my group of workers in three categories, women working in the public sector, in the private outside home, and home-based work. There is barely no mobility between these categories during a woman's life-time. A job history module in the ELMPS allows for an estimation of change between sector of activity and waged status. In my sample, this is the case for less than 4% of women currently working. Each of these categories is then compared to an identical group of non-working women in separate regressions

⁹Furthermore, this selection problem is usually set aside in related literature.

excluding other workers. I also want to distinguish between alone and joint decision-making. Thus, in a first specification, my dependent variables will take the value one if a woman as a final say alone in the decision under study and zero otherwise. In a second specification, my dependent variables will take the value one if a woman has the final say jointly with other household members only, and zero otherwise.

5.2. *Selection of covariates*

I selected the main covariates according to the empirical literature investigating the determinants of women's empowerment. After preliminary exploration, I retained what appears as the most relevant explanatory variables. The number of included covariates has been limited to reduce concerns on the endogeneity of the explanatory variables to the probability of participation in decision-making. As in Mabsout and Van Staveren (2010), I can classify these factors into three levels. At the individual level, I kept a woman's age, its square and education level. Assertive behaviour is more accepted from older than younger women (Agarwal, 1997). Thus, a woman is expected to gain in power as getting older, although this effect has been found to decrease over time (Rammohan and Johar, 2009). Women's education level is also usually found positively associated with empowerment, by increasing work opportunities, expanding cognitive capabilities and self-confidence, exposing women to the outside world and impacting their health status and fertility (Jejeebhoy, 1995; Kishor, 1995; Maitra, 2004). Turning to the household level, husbands' characteristics affect their own attitudes towards gender roles. Thus, I included the spouse's level of education. The latter is expected to be positively correlated with women's decision-making if it is believed that education brings with it a greater awareness about women's rights and role in the society. I also added a dummy specifying whether the husband is currently living in the household. The household socio-economic status, captured by a wealth index, has a mixed impact on women's autonomy in the literature. While it may enhance exposure to more egalitarian gender values, it may also help to fulfill traditional gender norms. As an illustration, Mahmud et al. (2011) found a negative association with decision-making indicators, while a positive association with mobility and access to cash. I attempt to capture the impact of the household structure by decomposing it, by age and sex, in seven groups. I further control for co-residence with the mother-in-law, expected to put daughters-in-law at a lower place of the family hierarchy (Agarwal, 1997). Finally, the third level consists in institutional-level factors characterising the environment in which the woman lives. Formal and informal institutions play a major role in women's exercise of power by shaping its dimensions and their relations with their determinants (Jejeebhoy and Sathar, 2000; Mason and Smith, 2003; Mabsout and Van Staveren, 2010). Women's consideration in the society in which they evolve is crucial for self-worth perceptions and the acceptance of more autonomous behaviours. Characteristics of the economic development of the area where the woman lives, infrastructure prevalence and public services availability are all expected to contribute to women's empowerment (Inglehart and Norris, 2003; Rahman and Rao, 2004). In order

to capture these variables, I included a dummy differentiating between urban and rural residence, in addition to governorate fixed-effects. Finally, because I use a pooled cross-section sample, I included a year fixed-effect in order to account for potential macroeconomic shocks and changes in social norms of household functioning and women's status.

5.3. Identification strategy

In order to address the issue of endogeneity of the decision to work to involvement in household decision-making, I retained a distinct exclusion restriction for each group of economic activity. This comes from the absence of a convincing instrument which is strongly associated with each type of work. Nevertheless, I believe that it better captures the particularity of engaging in one type or another. I selected the instruments on the basis of the strength of their correlation with the endogenous variables and their arguable exogeneity to individual decision-making participation. They all consist in lagged variables aggregated at the governorate level on labor market characteristics, which, in combination with governorate and year fixed effects, gives further support to their exogeneity. In this manner, I use the variation of local job opportunities as a source of identification.

Local views on women's work and changes over time in attitudes towards women should be captured by the governorates and year fixed effects included in the regression. Furthermore, as mentioned in Section 2, the evolution of labor market opportunities has been greatly shaped by the decline of employment in the public sector. This is illustrated by Figure ?? that exposes the proportion of women above 25 years old working in the public sector by cohort at the time of the survey. After an important rise in this porportion for the cohorts born after 1951, we observe a sharp decline for women born after 1965. I take advantage of this phenomenon as an exogenous negative shock on the labor demand, independant from changes in social norms. If social stigmas are associated with some occupations, there is no evidence of a decline or rise in these stigmas affecting the evolution of the Egyptian labor market. Still, a reverse relationship between changes in women's labor opportunities and local social norms around women's empowerment threaten the exogeneity of my instruments. If greater opportunities have been found as a source of empowerment, this impact is expected to be rather found in the long-run, by affecting girls' human capital investment decisions (Farré and Vella, 2007; Jensen, 2012).

Another advantage of the use of governorate-level instruments is that it reduces concerns about recalling bias and reporting errors that may be found at the individual-level. The use of lags accounts for the fact that the decision to participate in an economic activity has usually been formed prior to the survey year. There is no statistical test ensuring the reliability of the instruments in the recursive bivariate probit specification. However, a linear approximation of my model, by a two-stages least squares regression, allows to test for the weaknesses

of the instruments.¹⁰

Finally, I need to underline one limitation to this strategy. Following this method, I cannot recover an average treatment effect of labor force participation, but only its impact for individuals whose changes in participation have been affected by changes in the instrument. It could be that only those individuals who anticipate a gain in terms of decision-making participation are effectively participating in employment, when the labor market appears more favourable. This could lead to an overestimation of the average treatment effect. Therefore, the estimated impacts should be referred as local average treatment effects (Imbens and Angrist, 1994).

5.3.1. Instrument for the broad definition of employment

For the analysis of the impact of employment, broadly defined, on a woman's involvement in household decision-making, I retained as an instrument the lagged proportion of working women among female adults by governorate, elaborated using the 1998 and 2006 years of survey of my database and accounting for sampling weights. My instrument is between 3,11% and 22,06% in 1998. It increases in 2006, varying between 7,12% and 36,64%, declining only in three governorates. This variable is argued to indicate harder local competition on the female labor market, discouraging a woman's access to employment. Indeed, due to a decline in early childhood mortality in the 1980's, then followed by lower fertility rates, Egypt experienced a very fast increase of the proportion of young. This generation entered the labor market in the late 1990's and during the middle of 2000's, creating higher tensions in the labor market (Assaad and Krafft, 2013). If the labor market has now largely absorbed this generation, on the side of women, the decline of the public sector, accompanied with low opportunities in the private sector, resulted in a fall in the female labor force participation between the last two rounds of the ELMPS, 2006 and 2012. In the first stage of my baseline regression, shown in Table ?? of the Appendix, the negative impact of my instrument on the probability that a woman works supports this argument.

5.3.2. Instrument for public sector employment

Working in the public sector is instrumented by the urban unemployment rate of the governorate of residence issued from Egypt Human Development Reports (EHDR, 2003; EHDR, 2010). The 2001 rates are matched to the 2006 survey year and the 2007 rates to the 2012 year. These rates encompass both male and female unemployment rates, but female are over-represented among unemployed (Assaad and Kraft, 2013). This is due to the limited opportunities offered to women on the labor market and to the fact that they are more ready to queue for the public sector than men. Thus, unemployment rates among young and educated women are particularly high. Moreover, 67,35% of my final sample working in the public sector reside in urban areas. Therefore,

¹⁰The reliability of this test in the case of a binary dependent variable and a binary endogeneous variable has been criticized by Nichols (2011). Thus, results of these tests should mainly be taken as indicative.

this instrument reflects the tightness of the local labor market and the limited opportunities in the public sector. Higher rates are expected to discourage women from entering the labor market and indicate a lower probability to find a job in the public sector. The results of the first stage of my recursive bivariate regression indicate a negative correlation, as shown in Table ??.

My instrument varies from 6,1% to 15% in 2001 and from 5,4% to 21,5% in 2007. The variation of local urban unemployment rates between 2001 and 2007 is presented by Figure ?. We observe that it tends to increase between the two periods. Luxor shows the highest increase in urban unemployment rate. This is due to a slow-down of touristic activities, which constitute the main source of income in this area, after terrorist attacks in 1997 and the Asian financial crisis that began at the same period. These particular shocks have affected the male labor market as well, which could threaten the reliability of my instrument. However, the exclusion of the Luxor governorate from the regressions does not qualitatively change the results.

5.3.3. *Instrument for outside home private sector employment*

For the group of women working outside the home in the private sector, I selected the lagged proportion of women who are waged workers among working female adults, by governorate. These proportions are computed using the 1998 and 2006 waves of the ELMPS, adjusting for sample weights. The instrument varies from 41,31% to 100% in 1998, and from 14,18% to 90,54%¹¹ in 2006, decreasing between the two periods except for five governorates. The variation of this instrument between 1998 and 2006 is illustrated by Figure ?. This decline is partly due to the shrinkage of the public sector, while waged employment in the private sector slightly developed between the two years (Assaad and El-Hamidi, 2009). As indicated by Assaad and Krafft (2013), there has also been a change in the accountability of women's agricultural work between the 1998 and 2006 rounds of the ELMPS, contributing to the sharp decreases in the proportion of waged workers shown in Figure ?. This is particularly salient in Asyout and Suhag, but their exclusion from the regressions does not qualitatively change the results.

Comparing the evolution of the proportion of waged workers for men and women in Figure ?, we observe some correlation between the two but no consistent pattern that would make us conclude that these variations are only the result of local aggregated shocks affecting both genders' labor market. This reinforces my confidence in this instrumental strategy.

Waged work being mostly exercised outside the home, this instrument is believed to reflect outside labor market opportunities for women. This is confirmed by the positive correlation revealed by the first stage of the recursive bivariate regression, as shown by Table ?.

¹¹These high percentages correspond to Port-Said, the least populous urban governorate of the country.

5.3.4. *Instruments for home-based employment*

Finally, to predict home-based work, I kept the same instrument as for broad employment, which consists of the lagged proportion of working women among female adults by governorate, elaborated using the 1998 and 2006 years of survey of our database and accounting for sampling weights. As argued before, this instrument indicates harder local competition on the female labor market and is negatively associated with the probability of working at home, as shown in Table . The variation in women's local employment rate is presented in Figure ??.

As above-mentioned, the evolution of this rate in more rural governorates has been accentuated by measurement challenges in women's agricultural activities. This issue could give disproportionately more weights to relatively more rural governorates. There is no reason to believe that this bias differed among rural areas, as it has been attributed to small phrasing changes in the 2006 questionnaire (for more information, see Assaad and Krafft, 2013). As a robustness check, I computed a separate instrument for urban and rural areas of each governorate. The results are robust to this alternative.¹²

As before, I compare this instrument with the local variation of men's employment rate. We observe that these two are not consistently correlated across governorates. Indeed, women's and men's labor market differ in terms of occupations, opportunities and determinants. Their labor force transition offers different patterns (Assaad and El-Hamidi, 2009). Notably, men are less likely to stay out of the labor, as they represent the primary worker of the household.

This instrument alone does not capture the specificity of home-based work in comparison with other types of work. Thus, I also included another instrument reflecting a greater opportunity to belong to a household enterprise.¹³ The latter consists of a dummy indicating if a woman's father-in-law was employer or self-employed, when her husband was fifteen years old. My argument comes from evidence of intergenerational transmission of entrepreneurship, especially for men, in the literature exploring determinants of entrepreneurship (Rijkers and Costa, 2012). Thus, this variable should be related to a higher probability that a man owns or participates in a household enterprise, increasing in turn the probability that a woman engages in home-based work. This second instrument is positively correlated with the probability of home-based work in the first stage of the recursive bivariate regression, as shown in Table ??.

¹²These results are available upon request.

¹³The exclusion of this second instrument does not qualitatively change the results.

6. Results

6.1. *The determinants of Egyptian women's decision-making power*

Before examining in more details the relationship between a woman's economic activity and her involvement in the household decision-making process, it seems interesting to put into perspective my results on the other determinants of women's decision-making power, in the context of Egypt, with the empirical literature. I define a woman as involved in a decision if she declares having the final say on this decision, alone or jointly with other household members. Because of my suspicions of endogeneity in the decision to work, I run both probit and recursive bivariate probit regressions, following the estimation strategy described in Section 5. The results of both models on a woman's involvement in the economic decisions are listed in Table ??, those on personal decisions in Table ?? and those concerning children-related decisions in Table ?. In the biprobit specifications, I instrumented the decision to work with the lagged proportion of working women among female adults at the governorate level. According to the results of the Wald tests, I underline the correct model by putting the relevant marginal effects of my variable of interest in bold.¹⁴ The results regarding the exogenous covariates are very similar under the probit and the recursive bivariate probit regressions. They are also consistent with what have been found in this literature. Nevertheless, they still underline the differences between the different spheres of decisions, which supports the need to consider each decision individually, as potentially reflective of as many dimensions of empowerment.

If we first look at individual level factors, getting older enhances women's participation in almost all decisions, in a non-monotonic way, the size of this positive effect decreasing over the life-time. However, it has no significant impact on the decisions on large purchases, children's schooling and sending children to school. For the latter, it could be that this relationship reflects the effect of children's age on this decision. As the children get older, the decision on their schooling gains in importance and that could lead to women's exclusion from it. If gaining in age tends to be found associated with more autonomous behaviour (Agarwal, 1997), it is also expected to rather affect sole decision-making on a woman's personal sphere of life. Education appears has a major determinant of empowerment. Higher education levels, in comparison with none, are significantly associated with a greater involvement in the decisions on own health, own clothing, children's health and children's clothing, in an increasing way. It is also positively associated with the decisions on large purchases, cooking and visits, from an intermediate level of education. Several channels might be at play. Indeed, higher education is expected to be associated with greater exposure to the outside world and to more egalitarian gender values.

¹⁴See Section 5.1 for more detail. The first stages of my regressions, the regression of the instrumental variable and other covariates on the probability to work, are shown in Table ?? of the Appendix.

Enhancing a woman's abilities and self-confidence, she might perceive a greater legitimacy and interest of her participation in the decision-making process, and be able to make her voice heard in a more convincing way. However, only the lowest level of a woman's education, which is less than intermediate in comparison with none, is consistently associated with a higher participation in the decisions on children's education. Having received a university education is surprisingly negatively associated with involvement in the decision on children's schooling. The explanation is to seek on the side of the husband's education level, negatively associated with children's education decisions and that of children's clothing. It seems that, when more educated, men tend to exclude their wives from children-related decision-making. Because more educated men tend also to marry more educated wives, this would mitigate the impact of a woman's own level of education over these decisions. If education is believed to bring with it a greater consideration of women's role in the society, this variable could have been expected to be associated with a greater involvement of women in the decision-making process. However, higher levels of education may also comfort husbands in their patriarchal roles and ability of making important decisions in the interest of all household members. Furthermore, in my specification, this variable is also a proxy for men's position in the labor market and contribution to the household prosperity. These both conflicting effects could be part of the explanation of the lack of apparent impact of husbands' higher level of education on other decisions. Another plausible explanation is that the impact of women's own level of education overcomes that of their husbands' for these other matters. Overall, if I also take into account the indirect effect of a woman's own education through employment and household economic status, education appears as the main determinant of a woman's involvement in household decisions.

Turning to household characteristics, a woman's position in the family hierarchy, as captured by controlling for co-residence with the mother-in-law, is an important determinant of her exclusion from the daily purchases, cooking, visits and own clothing decisions. This illustrates the lasting importance of traditions in extended families, that will put daughters-in-law aside of the household decision-making process (Agarwal, 1997). Still, it does not affect a woman's participation in children-related decisions. The role of women in the household decision-making differs when she is co-residing with their own mother. Controlling for the presence of the mother-in-law, the impact of the number of female adults above 65 years old essentially reflects the impact of the presence of their own mother. Corroborating the findings of Rammohan and Johar (2009) on uxorilocal communities in the context of Indonesia, it is associated with a greater involvement in the daily purchases and cooking decisions. However, a woman's mother seems to be involved in children's education decisions, lowering the participation of their daughters. Looking at the impact of other categories of household composition, the number of men above 65 years old is negatively associated with a woman's involvement in the decisions of the economic sphere, own clothing and sending children to school. The number of men between 21 and 64 years old has a negative

impact on the daily purchases and cooking decisions only. The number of women within this age range and that of members between 16 and 20 years old are also negatively associated with a woman's participation to the cooking decision. It is reasonable to attribute these results to the impact of living in an extended family on a woman's involvement in the household daily functioning. When looking at children's education decisions, the number of girls between 7 and 15 years old and the number of boys aged 16 and 20 years old decreases the probability that a woman is involved in these decisions. It could be that higher children's age and family size make the children themselves the decisionmakers of these decisions. Other associations are harder to interpret. When looking at the household economic-status, measured by our five wealth index quintiles, it enhances, in an increasing way, the probability that a woman participate in decisions implying the use of money, which are large and daily purchases, cooking, own and children's clothing. It seems that a lower incidence of such spendings, decreasing with the household wealth, increases women's involvement in these decisions. This argument is supported by other empirical work, like the one of Mahmud et al. (2011) who find a positive association between a woman's household wealth and her access to cash in rural Bangladesh. Another possible explanation is the greater exposure to more egalitarian gender values that could be associated with a more affluent social environment.

Finally, the environment in which a woman evolves is found to be another important element to participation in the household decision-making process. Rural residence decreases this probability for all decisions, at the exception of the daily purchases and cooking decisions. As highlighted in previous studies, the cultural and social norms surrounding household functioning, affected by the economic development of the area of residence, play a crucial role in shaping the expected roles of wives and husbands within their households, and that of women and men in society (Jejeebhoy and Sathar, 2000; Inglehart and Norris, 2003; Mason and Smith, 2003; Mabsout and Van Staveren, 2010). As a result, rural areas tend to be characterised by more patriarchal norms than urban areas.

6.2. The broad impact of working on the household decision-making process

If the determinants of women's involvement in the household decision-making present a consistent pattern with the literature, I want to test the usual assertion of a positive impact of access to employment by focusing the remaining part of the analysis on the role of a woman's economic activity. Overall, participating in an economic activity enhances the probability that a woman is involved in household decisions.

The greatest impacts are found for those of potential long-term incidence for all household members. Working increases the likelihood to be involved in the decision on large purchases by 28,6% and that of daily purchases by 3,49%. It has no significant impact on the decision on the food that is cooked, which is not really surprising considering that this decision tends to be in the hands of women. Lépine and Strobl (2013) exclude this minor

decision from their analysis on Senegal because of its doubting capacity to reflect empowerment. Working enhances the likelihood to be involved in the decision on children's schooling by 46,8%, that of sending children to school on a daily basis by 30,9%, and that on children's clothing by 3,91%. However, it has no significant impact on the children's health decision.¹⁵ Different dimensions might be behind this decision, making its interpretation not clear. Thus, this absence of impact is potentially the result of confounding effects.

When looking at the personal sphere of decisions, only the probability to be involved in decision on own clothing is affected by women's work. This is likely to result from a greater access to earnings. These results are consistent with what has been previously found in the context of rural Bangladesh by Anderson and Eswaran (2009) and that of Indonesia by Rammohan and Johar (2009). Both studies highlight the role of working on women's empowerment, but also its limitation to the economic sphere. It seems that, in the case of Egypt too, access to employment does not allow to challenge social norms and cultural factors that would more strongly determine personal autonomy (Anderson and Eswaran, 2009; Mabsout and Van Staveren, 2010).

It is important to note that we should be careful in comparing directly these marginal effects as the effects provided by the bivariate probit specification correspond to a local average effect, while the ones obtained by probit specifications are average effects. Nevertheless, a greater access to earnings and exposure to the outside world are potential mechanisms affecting a woman's perceived contribution and interests in the household, as well as that of other household members. As a result, a woman can more persuasively make her voice heard in the household. However, my results suggest that this impact does not extend to her personal sphere of decisions.

Another important element arises from these results. My suspicions of endogeneity have only been confirmed for major decisions that have a potential impact for the future of all household members. These are the decisions on material investment, that of large purchases, and on investment in children's human capital. Being involved in these decisions is negatively associated with the probability of working, underestimating its impact on the household decision-making process. This is illustrated by the sign and the size of the correlation between the unobservables of the selection and outcome equations (ρ), which reveal a strong negative selection bias into the group of workers. This result suggests that working women tend to live in an environment in disfavour of their involvement in decisions. One way to explain it, is to consider this environment as belonging to more conservative families. Indeed, in a traditional patriarchal system, the patriarch, who usually is the most educated and main contributor to the household finances between the couple, tends to have the sole responsibility on the

¹⁵Among them, dealing with household money, mobility concerns and contact with male doctors, in addition to its potential incidence on children's future health, would suggest that a woman's greater involvement in this decision reflects greater consideration. On the other hand, because a mother's traditional role is associated with taking care of the children, the greater proximity to them that it implies, and the potential emergency of the situation, make the earlier conclusion less straightforward.

decisions that affect all household members.

The idea that women living in more traditional families are more likely to work might sound counter-intuitive. However, this is not the case when we consider work in the public sector and home-based work. As already developed in Section 3, both types of work are socially accepted and allow women to conciliate their work with their family role. To test this hypothesis, I distinguish between working in the public sector, working in the private sector outside the home, and home-based work, allowing for differential impacts. To provide a deeper understanding of the impact of work on the household decision-making process in different spheres of decisions, I also consider sole and joint decision-making separately.

6.3. Differentiating between types of economic activity

The results of the separate regressions of a woman's economic activity on the probability that she has the final say on household decisions are listed in Table ??, and those on the probability of joint decision-making in Table ?. For ease of reading the results, I only present the marginal effects of the relevant regression model.¹⁶ My main instrument is weakly associated with some types of economic activity. For this reason, and in order to better capture the particularity of each of them, I retained distinct exclusion restrictions across the different groups of workers. Details and justification of these choices are exposed in the empirical strategy in Section 5.

6.3.1. The role of employment in the public sector

My results support a significant impact of women's work in the public sector on the household decision-making process. Indeed, it enhances a woman's autonomy in the personal sphere of decisions and some children-related decisions. It also encourages joint decision-making on the household economic decisions and those of investment in children's human capital.

Looking at Table ??, working in the public sector is associated with a greater likelihood of having the final say alone in the decisions on own health, own clothing, children's schooling and children's clothing. Its negative impact on the daily purchases decision suggests that working in the public sector, in comparison with not working, can challenge part of the traditional functioning of the household, which ascribes to women the management of daily expenses for the household's needs. Instead, it fosters joint decision-making, as shown in Table ?. The same pattern arises for the group of home-based workers.

Interestingly, both groups were suffering from a positive selection bias. This supports my earlier argument that women working in the public sector and those working at home are more likely to belong to more conservative households. The positive association between working in the public sector and having the final say on

¹⁶The correct model is selected according to the results of the Wald tests, as explained in Section 5. These, the marginal effects of the alternative model and the first-stage of recursive bivariate probit regressions are available upon request.

children's schooling goes in this direction. Indeed, although this investment decision in children's human capital would be expected to involve both parents, the sphere of children is usually attributed to the mother.

Finally, women working in the public sector have a lower probability of having the final say alone on the children's health decision than not working women. It could be that the lower proximity to children induced by this economic activity enhances the involvement of other household members in this decision. This is supported by the positive impact of working in the public sector on joint decision-making over this decision in Table ???. Looking at the same table, it is associated with a greater probability to have a joint final say on the decisions of large and daily purchases, children's schooling and children's health.

6.3.2. The role of outside work in the private sector

As for workers in the public sector, engaging in the private sector outside home is generally associated with greater decision-making power. It increases the probability of having the final say alone in the personal sphere of decisions, and that of joint decision-making on major economic decisions and children's schooling. In comparison with women working in the public sector, those effects are larger and outside employment in the private sector increases the probability of having the final say alone in visits and children's health decisions (Table ???). This could be the result of the greater mobility associated with this type of work, usually located further away than employment in the public sector (Assaad and Arnt, 2005).

Nevertheless, when we look at Table ??, it is also associated with a lower probability of joint decision-making over the decisions on sending children to school on a daily basis, children's health and children's clothing. Employment in the private sector outside the home is the activity that is the less compatible with family life, because of a higher average working load, its location and the rigidity of working hours (Assaad and El-Hamidi, 2009; Sayre and Hendy, 2013). It might be that engaging in this activity relies on an implicit agreement of more autonomy in children-related decisions in order to compensate absence from home.

The correlation between the error terms of the selection and outcome equations for these decisions, as well as for the decision on own clothing, is positive and significant. This reveals a positive selection bias in joint decision-making of women working outside home in the private sector. It suggests that those women tend to belong to more cooperative households, at least regarding children-related decisions, which could be associated with a greater acceptance of this work by the family. If the social stigma associated with this type of activity can mitigate the decision to engage in it, it does not hinder the positive impact of the common attributes with the public sector, which are an access to earnings and exposure to the outside world.

6.3.3. *The role of home-based work*

When we look at the impact of home-based work on a woman's autonomy, except from that on daily purchases already mentioned, it does not significantly affect the probability of having a final say in the different spheres of decisions (Table ??). One exception is its negative association with having the final say on own clothing. This is not surprising when we refer to the working conditions of these women. As an illustration, Sen emphasizes the role of "gainful work outside" through its access to income, associated rights it entitles to and exposure to the outside world (Sen, 1987). Because the vast majority of home-based workers are unpaid, mainly all of these characteristics are denied to these women.

However, the results on joint decision-making exposed in Table ?? reveal some impact. When correctly removing the endogeneity bias of the decision to engage in home-based work, as far as it remains one, the exercise of a home-based market oriented activity increases joint decision-making over two major investment decisions, that are large purchases and children's schooling decisions, and that of the two decisions traditionally associated with women's role, that are daily purchases and cooking. If they are not the ones collecting the money out of their work, women working at home are still contributing to the household prosperity. It seems that, in the Egyptian context, there is some room for such acknowledgement. In the context of Turkey, agricultural home-based work has been found associated with a decrease of the sex ratio (Berik and Bilginsoy, 2000). This improvement in survival chances of girls suggests that this type of work effectively enhanced their perceived contribution to the household prosperity. My argument is that the exercise of such an activity, which steps outside of usual domestic work, reveals women's abilities in new spheres of competence. As a consequence, engaging in home-based work results in more inclusion of these women in the management of the household.

My results reveal that the underestimation of the impact of work on joint decision-making, due to a negative selection in the engagement in an economic activity, observed in Tables ?? and ??, was associated with home-based work. When we look at the statistical distribution of initial characteristics across different types of work of Table ??, home-based women workers are poorer and less educated, and tend to live in extended families in rural areas. Although I control for these observables, it is likely that other unobservable characteristics characterize a less favourable environment for women's agency, in which this group of women are evolving. Even if expected, a better understanding of the reasons that lead a woman into home-based work is needed to shed more light on this result. In this context, the impact of work remains limited and unable to affect a woman's autonomy. Therefore, if by this mean, the possibility of signalling on a woman's abilities in different areas of competence constitutes a step towards more recognition, their situation is not to be desired.

7. Conclusion

The promotion of women's empowerment is at the centre of a growing literature, encompassing the different disciplines of social sciences. However, its determinants are still not completely understood. Among them, a woman's economic participation tends to be considered as the major source of empowerment, although convincing evidence supporting this assertion is relatively scarce. Indeed, access to employment makes a woman more likely to have control over the resources that she may earn and affects her family and own perceptions of her abilities in the non-domestic sphere. Still, the conditions in which this work is exercised can affect the way it translates itself in a source of empowerment. The segmentation of the Egyptian female labor market seems to provide an interesting setting to examine this question. This study aimed to shed more light on this relationship by addressing major empirical challenges pointed out by the literature, the endogeneity of the decision to work and its heterogeneity.

In this paper, I focused on the global impact of employment on a woman's involvement in household decision-making as a baseline analysis, before distinguishing by economic activity. To do so, I ran both simple probit and recursive bivariate probit regressions, in which I instrumented the decision to work with lagged aggregated characteristics of the labor market. In line with the literature, I conclude that working outside the home has the greatest impact on women's empowerment. Still, correctly addressing endogeneity reveals that home-based work encourages joint decision-making on major decisions. Several mechanisms are at play and due to data limitation, I cannot disentangle the respective effects of an access to earnings from other potential factors. Nevertheless, the positive impact of home-based work on joint decision-making suggests an effect of work that goes beyond remuneration.

With regard to the empowering potential of outside work in the private sector, public policies need to participate to the creation of a work environment more favorable to women. It is important to address the social stigma associated with this kind of job, which represents an additional barrier to women's employment. Public policies should support the development of female-oriented sectors and fight against the prevalent gender discrimination in the labor market of the private sector. If exposure to women's work is able to challenge preconceived ideas about their performance, as suggested by my results in the context of the household, better inform on women's capacities could be also a way to pursue. Training programs allow to better signal on your competences and a voucher system encouraging the hiring of women could put more employers in relationship with women and possibly affect the view on women's work, as experienced by the New Opportunity for Women program in Jordan (WDR 2012). The development of household enterprise is also to be considered and can be supported by the development of micro-finance. However, women's empowerment has to go beyond their economic empowerment. There is the need to favour the acceptance of greater gender equality in order to avoid a repressive reaction

from the society. An important requisite is a change in legislation. Domestic violence and sexual harassment need to be seriously addressed by the Egyptian Law. However, a woman may be reluctant to have recourse to the courts if it is considered inappropriate by the society. Thus, empowering women is an enterprise that needs to go beyond legislation and regulation.

Table 1: Summary statistics on my final sample of married women

VARIABLES	Not working		Public sector work		Private sector outside work		Home-based work		Total	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Age (years)	32.60	(0.10)	37.78	(0.22)	36.06	(9.19)	36.12	(0.43)	33.63	(10.52)
<i>Education (%):</i>										
No education	35.61		1.49		35.99		74.81		36.02	
Less than inter.	14.85		1.31		9.48		9.54		14.26	
Inter. and above	39.17		50.75		33.84		14.79		36.76	
Uni. and above	10.36		46.46		20.69		0.86		12.96	
<i>Spouse's education (%):</i>										
No education	29.04		3.17		30.60		57.54		28.97	
Less than inter.	17.97		5.60		15.73		16.89		16.38	
Inter. and above	38.77		44.65		31.68		22.90		37.76	
Uni. and above	14.21		46.58		21.98		2.67		16.88	
Presence of the spouse (%)	99.95		100		100		99.90		99.94	
Mother in law (%)	21.71		5.41		7.11		23.57		12.91	
Number of daughters	1.15	(0.01)	1.24	(0.03)	1.17	(0.05)	1.50	(0.04)	1.19	(1.05)
Number of sons	1.35	(0.01)	1.29	(0.03)	1.40	(0.05)	1.90	(0.04)	1.40	(1.06)
Mean age of children	7.98	(0.07)	9.88	(0.18)	9.48	(0.33)	10.68	(0.22)	8.55	(7.20)
<i>Wealth index (%):</i>										
Poorest quintile	17.41		2.18		17.24		40.27		17.69	
Second quintile	21.28		7.21		21.77		30.82		20.84	
Third quintile	22.94		13.99		18.32		18.13		21.53	
Fourth quintile	21.40		28.05		18.10		6.97		20.68	
Richest quintile	16.96		48.57		24.57		3.82		19.27	
Urban (%)	51.29		67.35		57.54		17.46		47.68	
<i>Region (%):</i>										
Great Cairo	11.82		13.00		17.89		1.62		11.12	
Alexandria	10.06		12.75		12.28		0.76		9.51	
Urb. Lower	12.72		17.16		13.58		2.39		12.22	
Urb. Upper	14.25		24.44		13.79		12.79		14.95	
Rur. Lower	28.40		24.69		30.82		24.71		28.99	
Rur. Upper	22.75		7.96		11.64		57.73		23.82	
<i>Wage status (%):</i>										
Waged worker	-		100		49.14		5.15		-	
Employer	-		-		7.76		3.15		-	
Self-employed	-		-		23.92		20.61		-	
Unpaid worker	-		-		19.18		71.09		-	
<i>Observations</i>	<i>11,437</i>		<i>1,608</i>		<i>464</i>		<i>1,048</i>		<i>15,022</i>	

Source: Author's calculation based on ELMPS-06 and ELMPS-12

Table 2: Statistics on women's decision-making participation

DECISIONS	Not working	Public sector work	Private sector work	Home-based work	Total
ECONOMIC DECISIONS					
<i>Large purchases (%):</i>					
Has the final say alone	4.93	5.22	9.27	6.87	5.19
Joint final say	43.84	63.18	56.03	33.87	45.14
Not involved in the decision	51.23	31.59	34.70	59.26	49.67
<i>Observations</i>	<i>11,437</i>	<i>1,608</i>	<i>464</i>	<i>1,048</i>	<i>15,022</i>
<i>Daily purchases (%):</i>					
Has the final say alone	49.36	51.65	60.17	49.86	49.93
Joint final say	21.17	32.13	25.70	17.81	22.03
Not involved in the decision	29.46	16.22	14.13	32.33	28.05
<i>Observations</i>	<i>11,437</i>	<i>1,608</i>	<i>464</i>	<i>1,048</i>	<i>15,022</i>
<i>Cooking (%):</i>					
Has the final say alone	52.72	56.25	62.74	53.42	53.47
Joint final say	29.64	34.68	28.69	25.68	29.78
Not involved in the decision	17.64	9.07	8.57	20.90	16.75
<i>Observations</i>	<i>11,437</i>	<i>1,608</i>	<i>464</i>	<i>1,048</i>	<i>15,022</i>
PERSONAL DECISIONS					
<i>Visits to friends or relatives (%):</i>					
Has the final say alone	15.70	15.35	23.34	19.40	16.24
Joint final say	54.47	66.94	56.96	44.70	54.95
Not involved in the decision	29.83	17.71	19.70	35.90	28.81
<i>Observations</i>	<i>11,437</i>	<i>1,608</i>	<i>464</i>	<i>1,048</i>	<i>15,022</i>
<i>Own health (%):</i>					
Has the final say alone	19.73	23.87	29.98	22.77	20.86
Joint final say	56.77	62.46	54.82	45.74	56.22
Not involved in the decision	23.50	13.67	15.20	31.49	22.92
<i>Observations</i>	<i>11,437</i>	<i>1,608</i>	<i>464</i>	<i>1,048</i>	<i>15,022</i>
<i>Own clothing (%):</i>					
Has the final say alone	29.21	44.69	46.25	33.83	31.90
Joint final say	48.41	46.74	42.40	34.86	46.72
Not involved in the decision	22.37	8.58	11.35	31.30	21.38
<i>Observations</i>	<i>11,437</i>	<i>1,608</i>	<i>464</i>	<i>1,048</i>	<i>15,022</i>
CHILDREN DECISIONS					
<i>Children's schooling (%):</i>					
Has the final say alone	20.75	23.13	28.57	17.80	20.71
Joint final say	27.53	41.79	36.63	27.79	29.30
Not involved in the decision	51.71	35.07	34.80	54.41	49.99
<i>Observations</i>	<i>5,455</i>	<i>938</i>	<i>273</i>	<i>691</i>	<i>7,658</i>
<i>Sending children to school (daily) (%):</i>					
Has the final say alone	33.95	35.10	43.58	30.51	34.08
Joint final say	24.46	37.05	28.79	23.42	25.85
Not involved in the decision	41.60	27.85	27.63	46.07	40.06
<i>Observations</i>	<i>5,099</i>	<i>869</i>	<i>257</i>	<i>649</i>	<i>7,109</i>
<i>Children's health (%):</i>					
Has the final say alone	22.30	19.31	31.98	22.65	22.28
Joint final say	54.18	65.17	51.22	44.96	54.33
Not involved in the decision	23.51	15.52	16.80	32.39	23.39
<i>Observations</i>	<i>9,034</i>	<i>1,269</i>	<i>369</i>	<i>883</i>	<i>11,875</i>
<i>Children's clothing (%):</i>					
Has the final say alone	19.90	22.21	33.25	23.65	20.85
Joint final say	49.92	61.72	48.81	41.55	50.31
Not involved in the decision	30.18	16.08	17.94	34.81	28.84
<i>Observations</i>	<i>8,976</i>	<i>1,306</i>	<i>379</i>	<i>905</i>	<i>11,900</i>

Source: Author's calculation based on ELMPS-06 and ELMPS-12

Table 3:
First-stages of the recursive bivariate probit regressions:
explaining the probability to engage in an economic activity (Coefficients)

<i>Dependent variable:</i>	Works in the public sector	Works in the private sector	Works at home outside home
	(1)	(2)	(3)
Instrument			
Urban unemployment rate	-0.0241** (0.0118)		
<i>Observations</i>	13,039		
Instrument			
Proportion of waged-workers among working women		1.000*** (0.285)	
<i>Observations</i>		11,895	
Instruments			
Proportion of working women among women adults			-5.910*** (0.556)
Father-in-law was employer or self-employed			0.379*** (0.0495)
<i>Observations</i>			11,620

Robust standard errors clustered at the household level in parentheses.

All regressions include individual and household characteristics as listed in Section 5, sampling weights, year and governorates fixed-effects.

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's calculation based on ELMPS-06 and ELMPS-12

Table 4:
 Probit and recursive bivariate probit regressions on the probability of a woman's participation
 in the economic decisions, alone or jointly (Marginal Effects)

	ECONOMIC SPHERE					
	Large Purchases		Daily Purchases		Cooking	
	Probit (1)	Biprobit (2)	Probit (3)	Biprobit (4)	Probit (5)	Biprobit (6)
Works (broad definition)	0.0619*** (0.0114)	0.286*** (0.0643)	0.0349*** (0.00921)	0.0656 (0.0652)	0.100 (0.0447)	0.0988** (0.0733)
Age	0.00886*** (0.00342)	0.00109 (0.00408)	0.0257*** (0.00265)	0.0248*** (0.00347)	0.0127*** (0.00229)	0.0118*** (0.00395)
Age squared	-9.92e-05** (4.45e-05)	-2.26e-05 (4.89e-05)	-0.000328*** (3.48e-05)	-0.000319*** (4.11e-05)	-0.000128*** (3.02e-05)	-0.000101*** (4.34e-05)
<i>Own education level</i> (Ref. No Education)						
Less than intermediate	0.0164 (0.0166)	0.0202 (0.0158)	-0.00638 (0.0134)	0.0132 (0.0133)	0.0123 (0.0113)	0.0129 (0.0114)
Intermediate and above	0.0611*** (0.0148)	0.0350** (0.0168)	0.00119 (0.0116)	-0.00281 (0.0137)	0.0217** (0.0102)	0.0119 (0.0146)
University and above	0.131*** (0.0223)	0.0419 (0.0358)	0.00610 (0.0181)	-0.00468 (0.0298)	0.0450*** (0.0144)	0.0143 (0.0371)
<i>Spouse's education level</i> (Ref. No Education)						
Less than intermediate	0.0223 (0.0148)	0.0248* (0.0141)	-0.00131 (0.0116)	-0.000686 (0.0116)	0.00937 (0.00955)	0.0126 (0.00983)
Intermediate and above	0.0203 (0.0144)	0.0194 (0.0136)	-0.00549 (0.0110)	-0.00454 (0.0110)	-0.00506 (0.00976)	-0.00346 (0.00987)
University and above	0.0205 (0.0197)	0.0197 (0.0186)	-0.0241 (0.0161)	-0.0232 (0.0160)	-0.00503 (0.0142)	-0.00503 (0.0144)
Co-residence with mother-in-law	-0.0220 (0.0227)	-0.0344 (0.0210)	-0.127*** (0.0220)	-0.108*** (0.0180)	-0.157*** (0.0218)	-0.129*** (0.0162)
<i>Wealth index</i> (Ref. Poorest quintile)						
Second quintile	0.00424 (0.0157)	0.00864 (0.0149)	0.00310 (0.0125)	0.00456 (0.0126)	0.0331*** (0.0109)	0.0350*** (0.0116)
Third quintile	0.0210 (0.0163)	0.0324** (0.0157)	0.0203 (0.0131)	0.0222 (0.0136)	0.0330*** (0.0117)	0.0392*** (0.0135)
Fourth quintile	0.0298* (0.0179)	0.0389** (0.0170)	0.0364** (0.0143)	0.0371** (0.0146)	0.0465*** (0.0125)	0.0516*** (0.0140)
Richest quintile	0.0678*** (0.0202)	0.0663*** (0.0192)	0.0138 (0.0169)	0.0136 (0.0169)	0.0502*** (0.0145)	0.0516*** (0.0151)
Lives in a rural area	-0.0409*** (0.0115)	-0.0574*** (0.0120)	-0.00227 (0.00905)	-0.00510 (0.0110)	-0.0122 (0.00769)	-0.0208* (0.0120)
# of members 0-6 years old	-0.00772 (0.00549)	-0.00857* (0.00518)	-0.00546 (0.00438)	-0.00490 (0.00438)	-0.00343 (0.00385)	-0.00337 (0.00390)
# of girls 7-15 years old	0.00117 (0.00720)	-0.00533 (0.00707)	-0.0129** (0.00571)	-0.0139** (0.00597)	0.00127 (0.00507)	-0.00195 (0.00584)
# of boys 7-15 years old	-0.0157** (0.00789)	-0.0205*** (0.00752)	-0.00752 (0.00640)	-0.00881 (0.00661)	-0.00413 (0.00512)	-0.00632 (0.00566)
# of girls 16-20 years old	-0.0199* (0.0110)	-0.0271*** (0.0105)	-0.00945 (0.00846)	-0.0109 (0.00878)	-0.0191** (0.00762)	-0.0226*** (0.00846)
# of boys 16-20 years old	0.00520 (0.0103)	-0.00303 (0.0101)	0.000123 (0.00821)	-0.00112 (0.00860)	-0.0173** (0.00717)	-0.0202** (0.00811)
# of women 21-64 years old	0.00243 (0.0105)	0.00829 (0.00876)	-0.0151* (0.00873)	-0.0161* (0.00876)	-0.0136* (0.00726)	-0.0135* (0.00753)
# of men 21-64 years old	-0.0134 (0.00847)	-0.00834 (0.00823)	-0.0133** (0.00642)	-0.0139** (0.00650)	-0.0214*** (0.00514)	-0.0200*** (0.00549)
# of women >65 years old	0.0110 (0.0275)	0.0118 (0.0244)	0.0494** (0.0227)	0.0382* (0.0215)	0.0401** (0.0178)	0.0356** (0.0173)
# of men >65 years old	-0.0366* (0.0217)	-0.0266 (0.0208)	-0.0423** (0.0169)	-0.0422** (0.0171)	-0.0714*** (0.0137)	-0.0691*** (0.0141)
ρ		-0.524		-0.0712		-0.261
Wald Test, $H_0: \rho = 0$		6.263***		0.205		0.946
Observations	15,022	15,022	15,022	15,022	15,022	15,022

Robust standard errors clustered at the household level in parentheses.

All regressions include sampling weights, year and governorates fixed-effects, and a dummy controlling for the presence of the husband in the household. My instruments are the lagged urban unemployment rate by governorate for column (2), the lagged proportion of waged workers among working women at the governorate level for column (4), the lagged proportion of working women among female adults at the governorate level and a dummy on the father-in-law's working status for column (6).

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's calculation based on ELMPS-06 and ELMPS-12

Table 5:
 Probit and recursive bivariate probit regressions on the probability of a woman's participation
 in the personal decisions, alone or jointly (Marginal Effects)

	PERSONAL SPHERE					
	Visits		Own Health		Own Clothing	
	Probit (1)	Biprobit (2)	Probit (3)	Biprobit (4)	Probit (5)	Biprobit (6)
Works (broad definition)	0.0149 (0.0104)	-0.124 (0.0894)	0.0116 (0.00970)	-0.108 (0.0707)	0.0285*** (0.00938)	-0.0650 (0.0882)
Age	0.0100** (0.00300)	0.0155*** (0.00356)	0.0111*** (0.00278)	0.0143*** (0.00314)	0.0135*** (0.00264)	0.0164*** (0.00335)
Age squared	-0.000126*** (3.93e-05)	-0.000161*** (4.29e-05)	-0.000124*** (3.62e-05)	-0.000155*** (3.87e-05)	-0.000166*** (3.42e-05)	-0.000194*** (3.93e-05)
<i>Own education level</i> (Ref. No Education)						
Less than intermediate	0.0171 (0.0149)	0.0132 (0.0151)	0.0323** (0.0139)	0.0288** (0.0142)	0.0449*** (0.0134)	0.0425*** (0.0137)
Intermediate and above	0.0432*** (0.0132)	0.0536*** (0.0150)	0.0544*** (0.0121)	0.0651** (0.0132)	0.0620*** (0.0118)	0.0714*** (0.0140)
University and above	0.0827*** (0.0191)	0.119*** (0.0280)	0.0799*** (0.0180)	0.112*** (0.0233)	0.0947*** (0.0179)	0.121*** (0.0266)
<i>Spouse's education level</i> (Ref. No Education)						
Less than intermediate	0.0168 (0.0129)	0.0145 (0.0130)	0.0118 (0.0119)	0.0111 (0.0119)	0.00344 (0.0119)	0.00303 (0.0119)
Intermediate and above	0.0185 (0.0127)	0.0189 (0.0126)	0.0115 (0.0114)	0.0124 (0.0118)	0.0172 (0.0129)	0.0173 (0.0113)
University and above	0.00106 (0.0180)	-0.000564 (0.0178)	0.00506 (0.0166)	0.00544 (0.0165)	0.0301* (0.0160)	0.0289* (0.0160)
Co-residence with mother-in-law	-0.0450** (0.0217)	-0.0341* (0.0200)	-0.0327 (0.0204)	-0.0257 (0.0187)	-0.0315* (0.0190)	-0.0254 (0.0178)
<i>Wealth index</i> (Ref. Poorest quintile)						
Second quintile	0.00100 (0.0138)	-0.00167 (0.0137)	-0.00254 (0.0132)	-0.00548 (0.0131)	0.00959 (0.0128)	0.00740 (0.0128)
Third quintile	0.0103 (0.0147)	0.00318 (0.0151)	0.0225 (0.0137)	0.0174 (0.0140)	0.0306** (0.0133)	0.0260* (0.0139)
Fourth quintile	0.0182 (0.0161)	0.0119 (0.0163)	0.0186 (0.0152)	0.0146 (0.0152)	0.0353** (0.0147)	0.0316** (0.0150)
Richest quintile	0.0389** (0.0180)	0.0516*** (0.0178)	0.0402** (0.0169)	0.0381** (0.0168)	0.0651*** (0.0166)	0.0628*** (0.0166)
Lives in a rural area	-0.0442*** (0.0104)	-0.0346*** (0.0128)	-0.0310*** (0.00952)	-0.0220** (0.0110)	-0.0330*** (0.00933)	-0.0255** (0.0114)
# of members 0-6 years old	-0.00201 (0.00385)	-0.000612 (0.00509)	0.00462 (0.00466)	0.00564 (0.00466)	-0.00122 (0.00447)	-0.000280 (0.00450)
# of girls 7-15 years old	0.00611 (0.00657)	0.00930 (0.00683)	-0.00861 (0.00602)	-0.00510 (0.00626)	-0.00827 (0.00572)	-0.00584 (0.00606)
# of boys 7-15 years old	-0.00269 (0.00679)	-8.41e-05 (0.00697)	0.00220 (0.00612)	0.00345 (0.00627)	0.00127 (0.00596)	0.00202 (0.00616)
# of girls 16-20 years old	-0.0200** (0.00971)	-0.0145 (0.0102)	-0.0123 (0.00941)	-0.00867 (0.00971)	-0.00938 (0.00902)	-0.00613 (0.00948)
# of boys 16-20 years old	-0.0130 (0.00911)	-0.00813 (0.00954)	0.00625 (0.00865)	0.0101 (0.00881)	0.00226 (0.00822)	0.00521 (0.00870)
# of women 21-64 years old	-0.00361 (0.0104)	-0.00830 (0.0104)	-0.0112 (0.00972)	-0.0155 (0.00966)	0.00616 (0.00892)	0.00277 (0.00898)
# of men 21-64 years old	-0.00791 (0.00741)	-0.0104 (0.00740)	-0.00867 (0.00678)	-0.0101 (0.00678)	-0.00927 (0.00626)	-0.0106* (0.00639)
# of women >65 years old	0.00320 (0.0260)	0.00351 (0.0242)	-0.0111 (0.0232)	-0.00884 (0.0219)	-0.00585 (0.0219)	-0.00629 (0.0208)
# of men >65 years old	-0.0251 (0.0184)	-0.0279 (0.0182)	-0.0102 (0.0173)	-0.0130 (0.0172)	-0.0417** (0.0165)	-0.0438*** (0.0167)
ρ		0.250		0.235		0.197
Wald Test, $H_0: \rho = 0$		2.584		3.248*		1.292
Observations	15,022	15,022	15,022	15,022	15,022	15,022

Robust standard errors clustered at the household level in parentheses.

All regressions include sampling weights, year and governorates fixed-effects, and a dummy controlling for the presence of the husband in the household. My instruments are the lagged urban unemployment rate by governorate for column (2), the lagged proportion of waged workers among working women at the governorate level for column (4), the lagged proportion of working women among female adults at the governorate level and a dummy on the father-in-law's working status for column (6).

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's calculation based on ELMPS-06 and ELMPS-12

Table 6:
 Probit and recursive bivariate probit regressions on the probability of a woman's participation
 in the children-related decisions, alone or jointly (Marginal Effects)

	CHILDREN'S SPHERE							
	Schooling		Schooling (Daily basis)		Health		Clothing	
	Probit (1)	Biprobit (2)	Probit (3)	Biprobit (4)	Probit (5)	Biprobit (6)	Probit (7)	Biprobit (8)
Works (broad definition)	0.0515*** (0.0151)	0.468*** (0.0184)	0.0437*** (0.0150)	0.309*** (0.0745)	0.0005 (0.0107)	0.0415 (0.0940)	0.0391*** (0.0113)	0.0542 (0.0764)
Age	0.000289 (0.00693)	-0.00928 (0.00587)	0.0105 (0.00691)	0.00223 (0.00705)	0.00810** (0.00391)	0.00681 (0.00442)	0.0171*** (0.00396)	0.0165*** (0.00419)
Age squared	1.27e-05 (9.19e-05)	7.77e-05 (7.87e-05)	-0.000122 (9.22e-05)	-4.86e-05 (9.01e-05)	-0.000124** (5.42e-05)	-0.000113** (5.59e-05)	-0.000271*** (5.39e-05)	-0.000264*** (5.42e-05)
<i>Own education level</i> (Ref. No Education)								
Less than intermediate	0.0620*** (0.0232)	0.0628*** (0.0193)	0.0407* (0.0227)	0.0482** (0.0211)	0.0470*** (0.0152)	0.0472*** (0.0152)	0.0652*** (0.0167)	0.0637*** (0.0167)
Intermediate and above	0.110*** (0.0208)	0.0222 (0.0185)	0.0740*** (0.0202)	0.0319 (0.0249)	0.0613*** (0.0137)	0.0582*** (0.0159)	0.103*** (0.0146)	0.101*** (0.0167)
University and above	0.163*** (0.0324)	-0.0727** (0.0302)	0.0797** (0.0318)	-0.0449 (0.0541)	0.0965*** (0.0195)	0.0861** (0.0359)	0.161*** (0.0203)	0.159*** (0.0321)
<i>Spouse's education level</i> (Ref. No Education)								
Less than intermediate	-0.00599 (0.0198)	-0.00199 (0.0170)	-0.00245 (0.0192)	0.000596 (0.0184)	0.0194 (0.0131)	0.0204 (0.0130)	0.0162 (0.0134)	0.0168 (0.0134)
Intermediate and above	-0.0519*** (0.0194)	-0.0395** (0.0168)	-0.0550*** (0.0188)	-0.0508*** (0.0182)	-0.00227 (0.0129)	-0.00195 (0.0129)	-0.0200 (0.0133)	-0.0196 (0.0133)
University and above	-0.120*** (0.0270)	-0.0785*** (0.0235)	-0.122*** (0.0272)	-0.106*** (0.0260)	-0.00170 (0.0183)	-0.00201 (0.0183)	-0.0633*** (0.0199)	-0.0631*** (0.0198)
Co-residence with mother-in-law	0.0206 (0.0335)	-0.00158 (0.0264)	0.0546* (0.0328)	0.0432 (0.0312)	-0.0249 (0.0234)	-0.0297 (0.0222)	-0.00149 (0.0231)	-0.00168 (0.0224)
<i>Wealth index</i> (Ref. Poorest quintile)								
Second quintile	-0.00435 (0.0204)	0.00370 (0.0166)	-0.00633 (0.0199)	0.0139 (0.0189)	-0.00264 (0.0141)	0.0137 (0.0141)	0.0144 (0.0151)	0.0130 (0.0151)
Third quintile	0.0157 (0.0218)	0.0327* (0.0182)	0.00630 (0.0213)	0.0205 (0.0204)	0.0479*** (0.0148)	0.0484*** (0.0153)	0.0269* (0.0158)	0.0276* (0.0162)
Fourth quintile	-0.000884 (0.0245)	0.0236 (0.0203)	0.0303 (0.0235)	0.0415* (0.0224)	0.0263 (0.0167)	0.0268 (0.0169)	0.0416** (0.0172)	0.0414** (0.0174)
Richest quintile	0.0273 (0.0269)	0.0257 (0.0225)	0.00214 (0.0264)	0.00804 (0.0249)	0.0378* (0.0195)	0.0373* (0.0194)	0.0468** (0.0198)	0.0445** (0.0197)
Lives in a rural area	-0.0685*** (0.0158)	-0.100*** (0.0130)	-0.0348** (0.0158)	-0.0649*** (0.0170)	-0.0421*** (0.0106)	-0.0457*** (0.0139)	-0.0483*** (0.0114)	-0.0513*** (0.0135)
# of members 0-6 years old	0.0140* (0.00803)	0.00991 (0.00656)	0.00855 (0.00781)	0.00729 (0.00739)	-0.000424 (0.00558)	-0.000692 (0.00562)	0.00199 (0.00573)	0.00211 (0.00579)
# of girls 7-15 years old	-0.0163* (0.00869)	-0.0233*** (0.00712)	-0.0169** (0.00835)	-0.0223*** (0.00795)	0.00366 (0.00635)	0.00216 (0.00697)	-5.78e-05 (0.00680)	-0.000166 (0.00713)
# of boys 7-15 years old	-0.00547 (0.00943)	-0.0146* (0.00802)	-0.00681 (0.00893)	-0.0122 (0.00874)	0.000947 (0.00662)	0.00206 (0.00713)	0.00323 (0.00694)	-0.000179 (0.00727)
# of girls 16-20 years old	-0.00438 (0.0135)	-0.0154 (0.0110)	-0.0138 (0.0134)	-0.0209* (0.0126)	-0.0164 (0.0103)	-0.0175* (0.0105)	-0.000531 (0.0104)	-0.00146 (0.0106)
# of boys 16-20 years old	-0.0212 (0.0132)	-0.0320*** (0.0108)	-0.0119 (0.0128)	-0.0225* (0.0124)	0.000266 (0.00978)	-2.28e-05 (0.0104)	0.00721 (0.00987)	0.00682 (0.0103)
# of women 21-64 years old	0.00741 (0.0170)	0.00899 (0.0127)	-0.00684 (0.0178)	-0.00249 (0.0156)	-0.00434 (0.0117)	-0.000139 (0.0120)	-0.00505 (0.0116)	-0.00606 (0.0116)
# of men 21-64 years old	-0.0279** (0.0120)	-0.00905 (0.0101)	-0.00256 (0.0115)	0.00334 (0.0114)	0.00166 (0.00800)	0.00140 (0.00834)	-0.0103 (0.00826)	-0.0102 (0.00848)
# of women above 65 years old	-0.0727* (0.0373)	-0.0482* (0.0277)	-0.0827** (0.0378)	-0.0757** (0.0323)	-0.00868 (0.0264)	-0.00341 (0.0249)	-0.0437 (0.0272)	-0.0446* (0.0256)
# of men above 65 years old	-0.0150 (0.0322)	-0.0118 (0.0260)	-0.0632** (0.0211)	-0.0664** (0.0300)	-0.0291 (0.0319)	-0.0292 (0.0208)	-0.0163 (0.0225)	-0.0168 (0.0222)
ρ		-0.822		-0.524		-0.089		0.108
Wald Test, $H_0: \rho = 0$		56.894**		6.263***		0.180		-0.034
Observations	7,658	7,658	7,109	7,109	11,875	11,875	11,900	11,900

Robust standard errors clustered at the household level in parentheses.

All regressions include sampling weights, year and governorates fixed-effects, and a dummy controlling for the presence of the husband in the household.

My instruments are the lagged urban unemployment rate by governorate for column (2), the lagged proportion of waged workers among working women at the governorate level for column (4), the lagged proportion of working women among female adults at the governorate level and a dummy on the father-in-law's working status for column (6).

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's calculation based on ELMPS-06 and ELMPS-12

Table 7:
Relevant results of regressions on the probability that a woman has the final say alone on household decisions (Marginal Effects)

FINAL SAY ALONE	Economic sphere			Personal sphere			Children's sphere			
	Large Purchases (1)	Daily Purchases (2)	Cooking (3)	Visits (4)	Own Health (5)	Own Clothing (6)	Schooling (7)	Schooling Daily basis (8)	Health (9)	Clothing (10)
A- Works in the public sector	0.00774 (0.00923)	-0.0756**§ (0.0406)	-0.00728 (0.0179)	0.00434 (0.0135)	0.0479*** (0.0166)	0.119*** (0.0176)	0.0571*** (0.0211)	0.0252 (0.0252)	-0.0358** (0.0166)	0.0347** (0.0176)
<i>Observations</i>	13,045	13,045	13,045	13,045	13,045	13,045	6,393	5,935	10,260	10,238
B- Works in the private sector outside home	0.0172 (0.0126)	0.0268 (0.0239)	0.0236 (0.0246)	0.0440** (0.0219)	0.0578** (0.0225)	0.500***§ (0.0826)	0.0383 (0.0286)	0.0379 (0.0324)	0.0730*** (0.0270)	0.0970*** (0.0261)
<i>Observations</i>	11,901	11,901	11,901	11,901	11,901	11,901	5,728	5,728	9,359	9,311
C- Works at home	0.00571 (0.00965)	-0.127**§ (0.0554)	0.0193 (0.0183)	0.00187 (0.0151)	0.00956 (0.0170)	-0.100***§ (0.0475)	0.0160 (0.0214)	-0.0232 (0.0240)	-0.0281 (0.0179)	0.0202 (0.0178)
<i>Observations</i>	11,626	11,626	11,626	11,626	11,626	11,626	5,735	5,329	9,166	9,143

§ Marginal effects of recursive bivariate probit regressions, in which engagement in an economic activity has been instrumented. Robust standard errors clustered at the household level in parentheses.

All regressions include individual and household characteristics as listed in Section 4, sampling weights, year and governorates fixed-effects.

When relevant, my instruments are the lagged urban unemployment rate by governorate for regressions (A), the lagged proportion of waged workers among working women at the governorate level for regressions (B), the lagged proportion of working women among female adults at the governorate level and a dummy on the father-in-law's working status for regressions (C).

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's calculation based on ELMPS-06 and ELMPS-12

Table 8:
Relevant results of regressions on the probability of joint final say on household decisions (Marginal Effects)

FINAL SAY JOINTLY	Economic sphere			Personal sphere			Children's sphere			
	Large Purchases	Daily Purchases	Cooking	Visits	Own Health	Own Clothing	Schooling	Schooling Daily basis	Health	Clothing
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
A- Works in the public sector	0.0781*** (0.0170)	0.0326** (0.0139)	0.0115 (0.0160)	0.0257 (0.0178)	-0.0302 (0.0186)	-0.0800*** (0.0172)	0.0576*** (0.0222)	0.0256 (0.0769)	0.0556*** (0.0202)	0.0270 (0.0201)
<i>Observations</i>	13,045	13,045	13,045	13,045	13,045	13,045	6,393	5,935	10,260	10,238
B- Works in the private sector outside home	0.103*** (0.0257)	0.0415** (0.0210)	0.0164 (0.0232)	0.0157 (0.0271)	-0.0172 (0.0266)	-0.430***§ (0.0239)	0.0650** (0.0323)	-0.246***§ (0.0110)	-0.427***§ (0.0775)	-0.390***§ (0.0776)
<i>Observations</i>	11,901	11,901	11,901	11,901	11,901	11,901	5,728	5,728	9,359	9,311
C- Works at home	0.230***§ (0.0507)	0.207***§ (0.0543)	0.160***§ (0.0556)	-0.0143 (0.0197)	-0.0155 (0.0198)	0.100§ (0.0824)	0.281*** § (0.0748)	-0.0015 (0.0214)	0.00580 (0.0220)	-0.0155 (0.0216)
<i>Observations</i>	11,626	11,626	11,626	11,626	11,626	11,626	5,735	5,329	9,166	9,143

§ Marginal effects of recursive bivariate probit regressions, in which engagement in an economic activity has been instrumented. Robust standard errors clustered at the household level in parentheses.

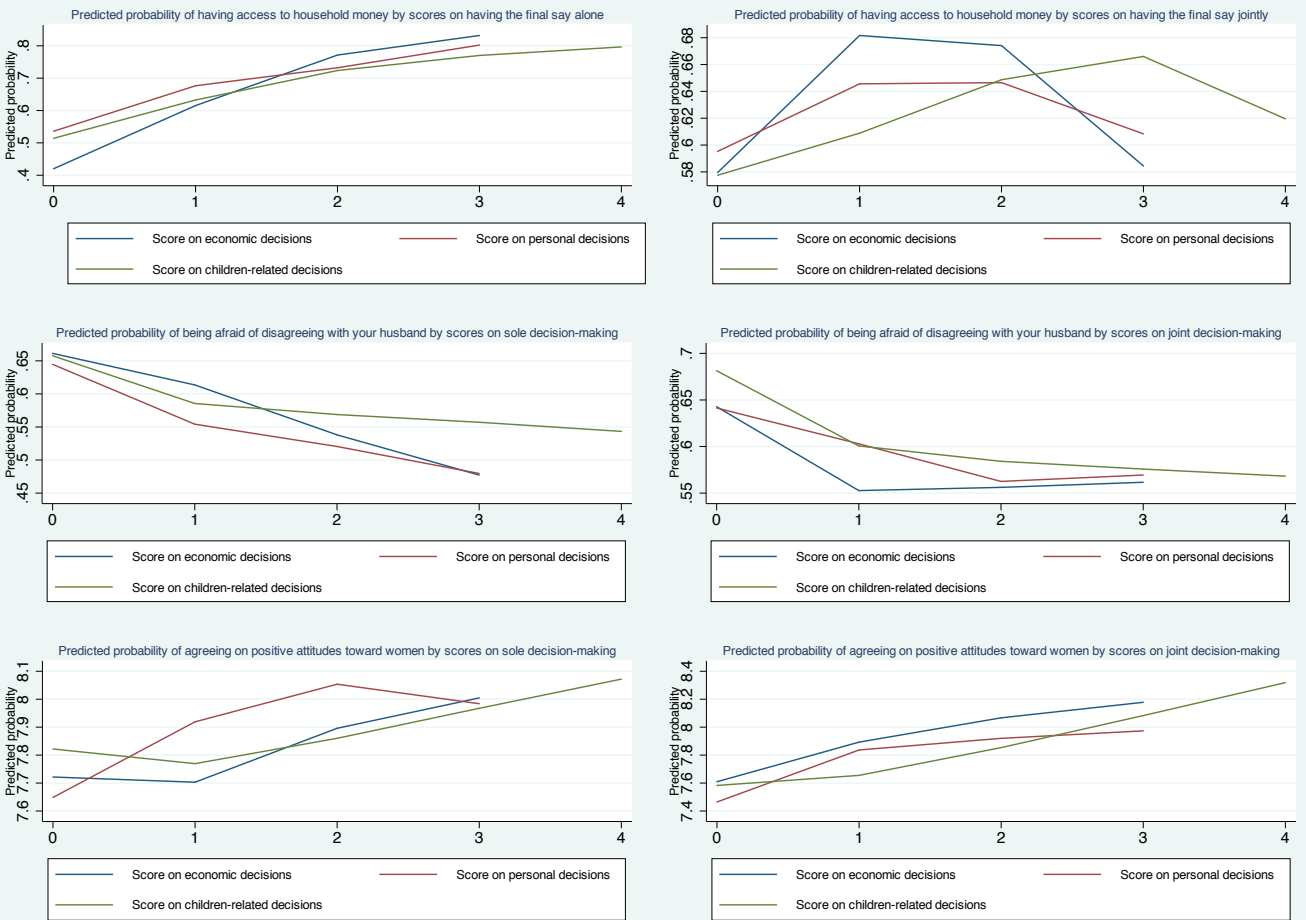
All regressions include individual and household characteristics as listed in Section 4, sampling weights, year and governorates fixed-effects

When relevant, my instruments are the lagged urban unemployment rate by governorate for regressions (A), the lagged proportion of waged workers among working women at the governorate level for regressions (B), the lagged proportion of working women among female adults at the governorate level and a dummy on the father-in-law's working status for regressions (C).

*** p<0.01, ** p<0.05, * p<0.1

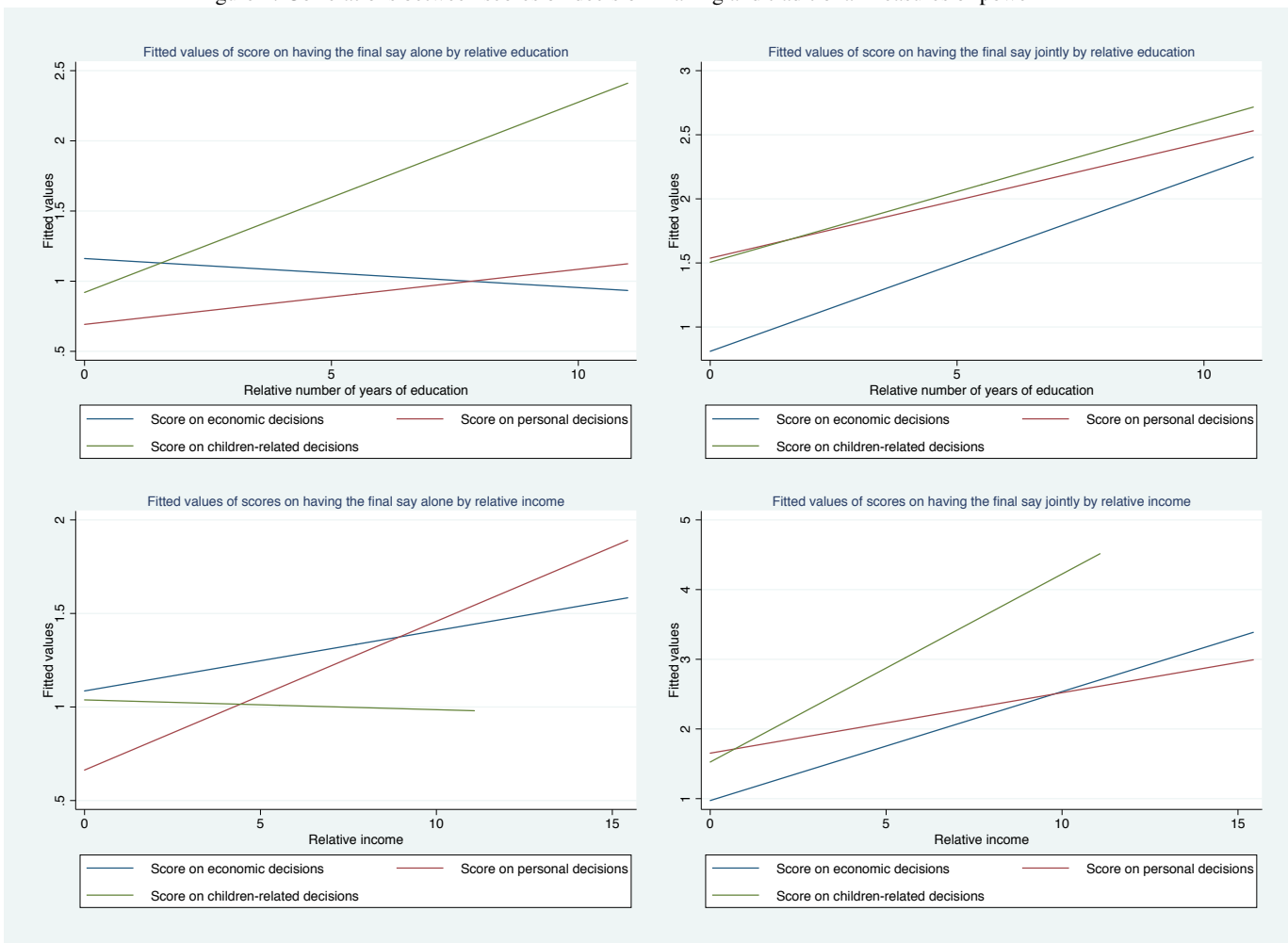
Source: Author's calculation based on ELMPS-06 and ELMPS-12

Figure 1: Correlations between scores on decision-making and other indicators of women's power



Note: Predicted probabilities obtained from estimations of a fractional polynomial.
 Source: Author's calculations based on 2006 and 2012 rounds of ELMPS

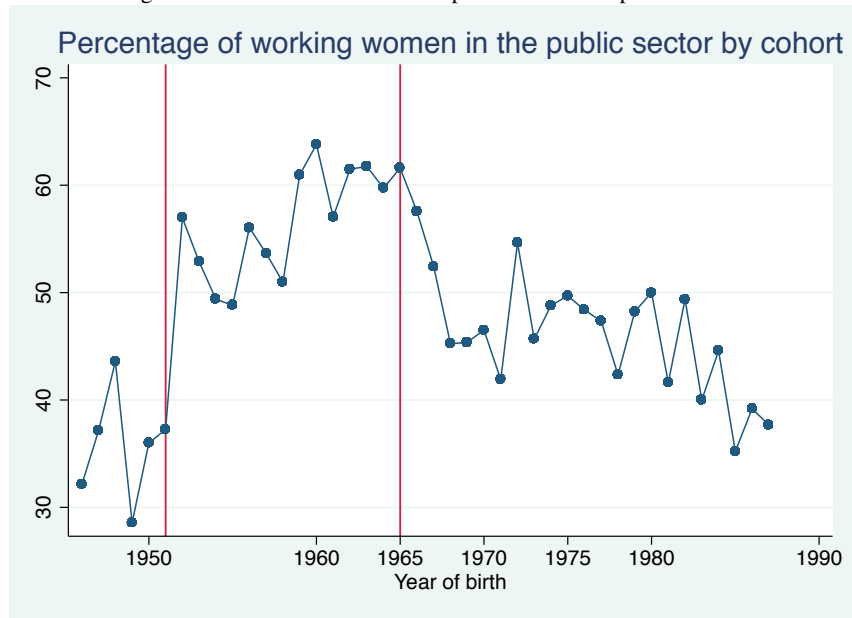
Figure 2: Correlations between scores on decision-making and traditional measures of power



Note: Predicted probabilities obtained from linear regressions of a woman's relative education or relative income on scores of decision-making.

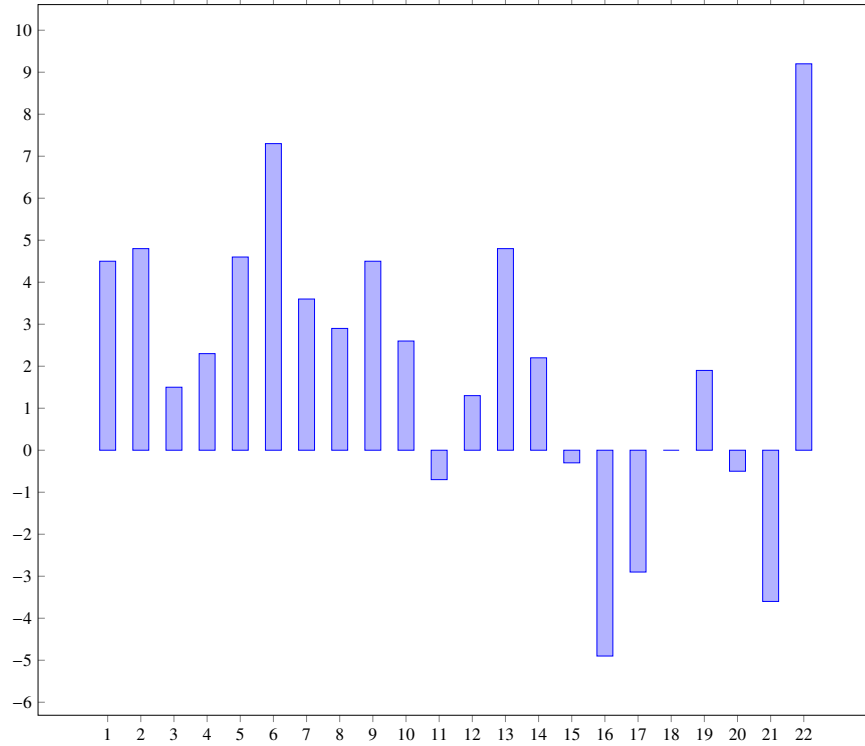
Source: Author's calculations based on 2006 and 2012 rounds of ELMPS

Figure 3: The decline of women's prevalence in the public sector



Source: Author's calculations based on 2006 and 2012 rounds of ELMPS

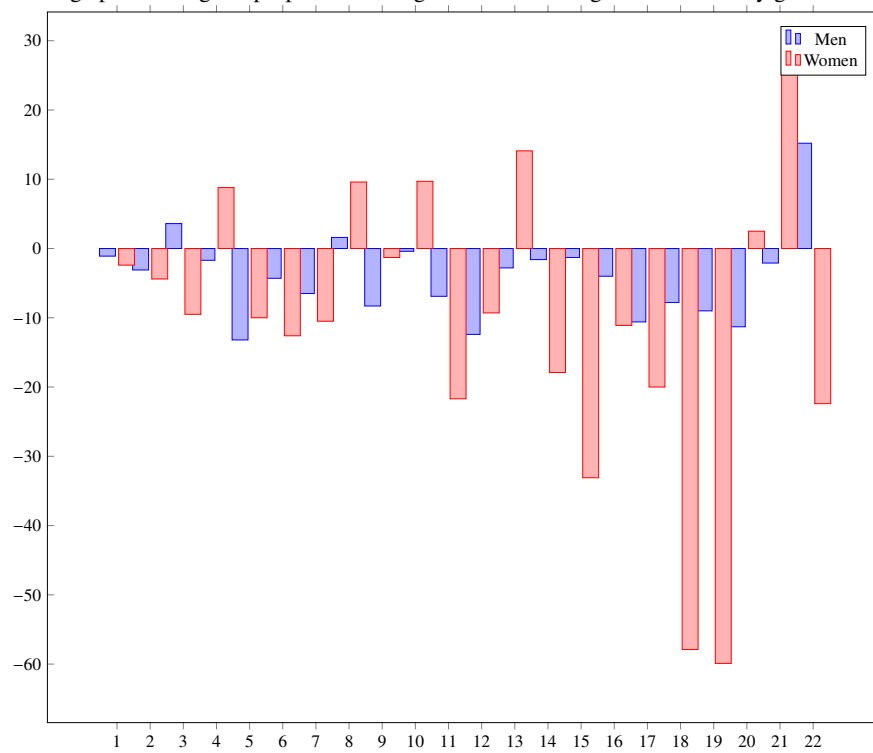
Figure 4: Percentage point change of urban unemployment rate by governorate, 2001-2007



Note: Horizontal axis corresponds to governorates, in the following order: Cairo, Alex., Port-Said, Suez, Damietta, Dakahlia, Sharkia, Kalyoubia, Kafr-El., Gharbia, Menoufia, Behera, Ismailia, Giza, Beni-Suef, Fayoum, Menia, Asyout, Suhag, Qena, Aswan, Luxor.

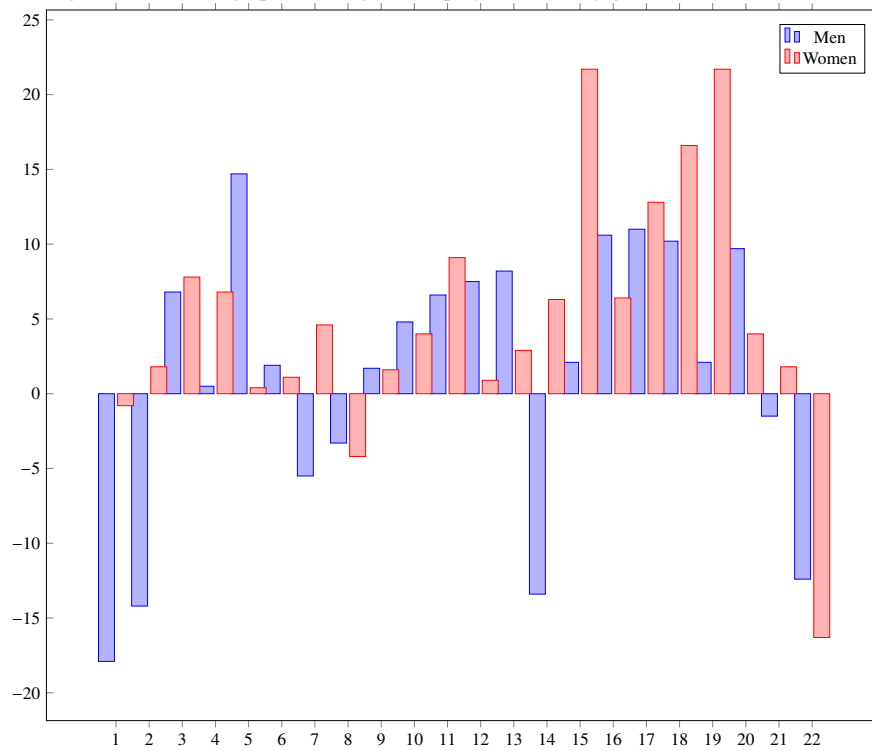
Source: Author's calculations based on 1998 and 2006 rounds of ELMPS

Figure 5: Percentage point change of proportion of waged workers among adult workers by governorate, 1998-2006



Note: Horizontal axis corresponds to governorates, in the following order: Cairo, Alex., Port-Said, Suez, Damietta, Dakahlia, Sharkia, Kalyoubia, Kafr-El., Gharbia, Menoufia, Behera, Ismailia, Giza, Beni-Suef, Fayoum, Menia, Asyout, Suhag, Qena, Aswan, Luxor.
 Source: Author's calculations based on 1998 and 2006 rounds of ELMPS

Figure 6: Percentage point change of employment rate by governorate, 1998-2006



Note: Horizontal axis corresponds to governorates, in the following order: Cairo, Alex., Port-Said, Suez, Damietta, Dakahlia, Sharkia, Kalyoubia, Kafr-El., Gharbia, Menoufia, Behera, Ismalia, Giza, Beni-Suef, Fayoum, Menia, Asyout, Suhag, Qena, Aswan, Luxor.
 Source: Author's calculations based on 1998 and 2006 rounds of ELMPS

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APPENDIX

Table 9: Decision-making module of ELMPS

<p><i>Question:</i> Who in your family usually has the final say on the following decisions ?</p>
<ul style="list-style-type: none"> A) Making large household purchases B) Making household purchases for daily needs C) Own visits to family, friends or relatives D) What food should be cooked for each day E) Getting medical treatment or advice for yourself F) Buying clothes for herself G) Taking child to the doctor H) Dealing with children's school and teachers I) Sending children to school on daily basis J) Buying clothes and other needs for children
<p><i>Answer:</i> 1. Respondent alone 2. Husband 3. Respondent and husband jointly 4. In-laws 5. Respondent, husband and in-laws jointly 6. Others 7. Not applicable</p>
<p>Source: ELMPS-2012 Individual Questionnaire</p>

Table 10: Other potential indicators of women's power

<p><i>Question:</i> Do you have access to household money in your hand to use ? (Yes/No)</p>
<p><i>Question:</i> Are you often or generally afraid of disagreeing with your husband or other males in your household ? (Yes/No)</p>
<p><i>Question:</i> What do you think about the following statements:</p>
<ul style="list-style-type: none"> A) A woman's place is not only in the household but she should be allowed to work. B) If the wife has a job outside the house then the husband should help her with the children. C) If the wife has a job outside the house then the husband should help her in household chores. D) A thirty year old woman who has a good job but is not yet married is to be pitied. E) Girls should go to school to prepare for jobs not just to make them good mothers and wives. F) A woman who has a full-time job cannot be a good mother. G) For a woman's financial autonomy, she must work and have earnings. H) Having a full-time job always interferes with a woman's ability to keep a good life with her husband. I) Women should continue to occupy leadership positions in society. J) Boys and girls should get the same amount of schooling. K) Boys and girls should be treated equally.
<p><i>Answer:</i> 1. Strongly agree 2. Agree 3. Indifferent 4. Disagree 5. Strongly disagree</p>
<p>Note: To compute a score on attitudes towards gender role, I attribute 1 point each time a woman agrees or strongly agrees with one of the propositions (A), (B), (C), (E), (I), (J), (K) and each time she disagrees or strongly disagrees with one of the propositions (D), (F), (G), (H).</p> <p>Source: ELMPS-2006 Individual Questionnaire</p>

Table 11: Regressions of a woman's score of decision-making on other indicators of power

	Access to HH money (1)	Afraid of disagreement (2)	Score of positive attitudes toward women (3)
<i>Score of sole decision-making in economic decisions:</i>			
Score 1	0.452*** (0.0281)	-0.080* (0.0415)	-0.085 (0.0717)
Score 2	0.866*** (0.0274)	-0.231*** (0.0392)	0.050 (0.0684)
Score 3	0.990*** (0.0704)	-0.293*** (0.0837)	0.078 (0.147)
Observations 14,995	6,026	6,027	
<i>Score of sole decision-making in personal decisions:</i>			
Score 1	0.134*** (0.0281)	-0.214*** (0.0387)	0.257*** (0.0679)
Score 2	0.167*** (0.0342)	-0.180*** (0.0456)	0.381*** (0.0803)
Score 3	0.350*** (0.0534)	-0.353*** (0.0655)	0.294** (0.116)
Observations	14,995	6,026	6,027
<i>Score of sole decision-making in children-related decisions:</i>			
Score 1	0.298*** (0.0421)	-0.237*** (0.0603)	-0.049 (0.103)
Score 2	0.578*** (0.0595)	-0.190** (0.0753)	0.022 (0.129)
Score 3	0.698*** (0.0595)	-0.194** (0.0876)	0.156 (0.150)
Score 4	0.783 (0.0605)	-0.345*** (0.0882)	0.250 (0.153)
Observations	7,022	2,974	2,974
<i>Score of joint decision-making in economic decisions:</i>			
Score 1	0.267*** (0.0277)	-0.220*** (0.0388)	0.178*** (0.0672)
Score 2	0.245*** (0.0390)	-0.159*** (0.0568)	0.330*** (0.0984)
Score 3	0.029 (0.0419)	-0.222*** (0.0674)	0.361*** (0.117)
Observations 14,995	6,026	6,027	
<i>Score of joint decision-making in personal decisions:</i>			
Score 1	0.063* (0.0337)	-0.028 (0.0482)	0.391*** (0.0829)
Score 2	0.051 (0.0338)	-0.138*** (0.0475)	0.296*** (0.0820)
Score 3	-0.003 (0.0352)	-0.044 (0.0509)	0.407*** (0.0876)
Observations 14,995	6,026	6,027	
<i>Score of joint decision-making in children-related decisions:</i>			
Score 1	0.005 (0.0423)	-0.262*** (0.0689)	0.078 (0.117)
Score 2	0.172*** (0.0451)	-0.200*** (0.0673)	0.247** (0.113)
Score 3	0.261*** (0.0612)	-0.348*** (0.0828)	0.535*** (0.141)
Score 4	0.079* (0.0439)	-0.296*** (0.0671)	0.719*** (0.113)
Observations 7,022	2,974	2,974	

Coefficients of probit regressions of score of decision-making on the probability of a woman's access to household money in column (1), on the probability that a woman is afraid of disagreeing with her husband in column (2) and of a linear regression of score of decision-making on a woman's score of positive attitudes toward women in column (3).

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's calculations based on ELMPS-06 and ELMPS-12

Table 12: Regressions of a woman's relative education and of her relative income on her scores of decision-making

	<i>Score of sole decision-making in</i>			<i>Score of joint decision-making in</i>		
	Economic Decisions	Personal Decisions	Children-related Decisions	Economic Decisions	Personal Decisions	Children-related Decisions
	(1)	(2)	(3)	(4)	(5)	(6)
Relative education	-0.021 (0.0140)	0.039*** (0.0143)	0.136*** (0.0265)	0.138*** (0.0158)	0.090*** (0.0183)	0.110*** (0.0297)
<i>Observations</i>	8,710	8,710	4,850	8,710	8,710	4,850
Relative wage	0.032* (0.0187)	0.080*** (0.0186)	-0.005 (0.0382)	0.156*** (0.022)	0.087*** (0.0244)	(0.270) (0.0424)
<i>Observations</i>	9,840	9,840	4,735	9,840	9,840	4,735

Coefficients of OLS regressions.

*** p<0.01, ** p<0.05, * p<0.1

Source: Author's calculations based on ELMPS-06 and ELMPS-12

Table 13:
 First-stage of the recursive bivariate probit regressions:
 explaining the probability to engage in an economic activity (Coefficients)

<i>Dependent variable:</i>	<i>Works (broad definition)</i>
Instrument	
Proportion of working women among female adults	-2.694*** (0.372)
Age	0.135*** (0.0120)
Age squared	-0.00135*** (0.000153)
<i>Own education level</i> (Ref. No Education)	
Less than intermediate	-0.173*** (0.0584)
Intermediate and above	0.377*** (0.0490)
University and above	1.123*** (0.0671)
<i>Spouse's education level</i> (Ref. No Education)	
Less than intermediate	-0.0658 (0.0508)
Intermediate and above	-0.0231 (0.0486)
University and above	-0.0259 (0.0629)
Co-residence with mother-in-law	0.219*** (0.0711)
<i>Wealth index</i> (Ref. Poorest quintile)	
Second quintile	-0.0732 (0.0473)
Third quintile	-0.211*** (0.0503)
Fourth quintile	-0.182*** (0.0560)
Richest quintile	-0.0717 (0.0609)
Lives in a rural area	0.332*** (0.0384)
Number of members 0-6 years old	0.0161 (0.0170)
Number of girls 7-15 years old	0.0793*** (0.0211)
Number of boys 7-15 years old	0.0682*** (0.0221)
Number of girls 16-20 years old	0.0993*** (0.0301)
Number of boys 16-20 years old	0.0920*** (0.0292)
Number of women 21-64 years old	-0.0746** (0.0304)
Number of men 21-64 years old	-0.0640*** (0.0241)
Number of women above 65 years old	-0.0142 (0.0819)
Number of men above 65 years old	-0.0947 (0.0642)
<i>Observations</i>	15,022

Robust standard errors clustered at the household level in parentheses.
 All regressions include sampling weights, year and governorates fixed