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Send correspondence to:
Maia Sieverding
University of California, San Francisco
maias@demog.berkeley.edu

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Abstract

The importance of mothers' educational and occupational attainments for understanding the social mobility of their children, and particularly daughters, has been increasingly emphasized as female labor force participation rates have risen in developed countries. However, few studies have yet to examine intergenerational occupational mobility between mothers and daughters in Low- and Middle-Income Countries, or contexts in which female labor force participation remains low. In this paper, I use the 1998, 2006 and 2012 waves of the Egypt Labor Market Panel Survey to examine the intergenerational dynamics of women's employment in Egypt. The findings demonstrate that mothers' work status is highly predictive of their daughters' labor market outcomes, suggesting that there is an intergenerational dynamic to women's employment. In addition, there is a degree of continuity in the types of work that mothers and daughters engage in. The findings suggest that the current decline in labor force participation rates among female youth, and successful policies to promote higher employment rates among young women, could have ripple effects for subsequent generations.

JEL Classification: J2

Keywords: Intergenerational mobility; women's employment; Egypt Labor Market Panel Surveys

ملخص

تنامت أهمية التحصيل العلمي والمهنية الأمهات لفهم الحراك الاجتماعي لأطفالهم، وخاصة البنات، وبارتفاع معدلات مشاركة القوى العاملة النسائية في البلدان المتقدمة. ومع ذلك، لدينا عدد قليل من الدراسات حتى الآن لدراسة الحراك المهني للأجيال بين الأمهات والبنات في البلدان المنخفضة الدخل والبلدان المتوسطة الدخل، أو السياقات التي لا تزال مشاركة المرأة في القوى العاملة متدنية. في هذه الورقة، نستخدم موجات من المسح التتبعى لسوق العمل فى مصر 1998 و 2006 و 2012 لدراسة ديناميات الأجيال وتوظيف المرأة في مصر. وتبين النتائج أن حالة العمل للأمهات هو التنبؤية العالية من بناتهن نتائج سوق العمل، مما يشير إلى أن هناك ديناميكية بين الأجيال لعمل المرأة. بالإضافة إلى ذلك، هناك درجة من الاستمرارية في أنواع العمل التي أمهات وبنات تشارك في. وتشير النتائج إلى أن الانخفاض الحالي في معدلات المشاركة في القوى العاملة بين الشباب الإناث، والسياسات الناجحة لتعزيز معدلات التوظيف بين النساء الشابات، يمكن لها نتائج ايجابية للأجيال اللاحقة.

1. Background

The importance of including mothers in social stratification research has been debated in the Global North since the 1970s. Working from theoretical perspectives that locate class in the family rather the individual, stratification researchers have traditionally solved the methodological problem of how to measure the class of a family by operationalizing class through the occupation of the male household head. This methodological substitution was justified by married women's low labor force participation, and their continued economic dependence on men even when they were active in the labor market (Sorensen 1994). Traditional social mobility studies have correspondingly focused on father-son pairs, and many that look at daughters' class destinations still use father's occupation as a proxy for class origins (see Sorensen (1994) and Khazzoom (1997) for reviews of this literature).

Over the past twenty years, a small but growing body of literature has argued for including mothers in social stratification research because female labor force participation (FLFP) has increased to such high levels in the Global North that mothers' educational attainments, occupations and incomes are likely to influence their children's class destinations (Sorensen 1994; Aschaffenburg 1995; Korupp et al. 2002; Beller 2009). Research from Canada in the 1970s (Stevens and Boyd 1980), and the United States in the 1980s (Aschaffenburg 1995; Khazzoom 1997) and 1990s (Beller 2009) has indeed suggested that occupational destinations for both daughters and sons can be better explained when mothers' occupation is included in measures of class origins.

Mothers' occupations have likewise been found to have an independent influence on children's educational attainment in the U.S., the Netherlands and West Germany (Kalmijn 1994; Korupp et al. 2002) and on their occupational attainment in Britain (Lampard 2012). Studies of social mobility that incorporate mothers' education and occupation have also found that parental characteristics interact with one another in determining children's class outcomes (Lampard 2012; Buis 2013). Whether one parent is more important than the other appears to vary by context; whereas in the U.S., mothers' occupations have been found to be more predictive for daughters' occupational destinations than are fathers' (Khazzoom 1997) in the Netherlands this was not found to be the case (Buis 2013). Also in the U.S., Aschaffenburg (1995) found that there was less persistence between mothers' and daughters' occupational statuses than between fathers and sons (i.e., that women were less likely to inherit their mothers' occupational status than were men). Although she analyzes class origins using a household-level approach rather than disaggregating parents' attainments, in a recent study from Mexico, Torche (2015) similarly finds more intergenerational fluidity in women's outcomes than men's. In particular, whereas women from disadvantaged backgrounds experienced stronger intergenerational persistence in outcomes, women from advantaged backgrounds experienced more variability in outcomes than men from advantaged backgrounds.

Thus far, however, very little research has examined the implications of women's employment for the class destinations or socioeconomic outcomes of their adult children in low- and middle-income countries, or in contexts in which female labor force participation (FLFP) remains low. Rather, research on the intergenerational aspects of women's labor force participation in low- and middle-income countries has focused largely on associations between women's work and fertility (Lloyd 1991; Donahoe 1999; Entwisle and Chen 2002) or the welfare of young children (Desai and Jain 1994). Two exceptions include a study of adult children's outcomes in Sri Lanka, which used qualitative and quantitative data collected in1989 to find that mothers' and unmarried daughters' attitudes toward work and marriage tended to be closely aligned (Malhotra and Tsui 1999). In Senegal, examining occupational mobility out of the farm sector, Lambert et al. (2014) found that daughters experienced less mobility relative to their mothers' occupational status (farm, non-farm, inactive or other) than did sons relative to their fathers' status.

The paucity of literature on intergenerational dynamics of women's employment in Low- and Middle-Income Countries is surprising given the emphasis that gender and development scholars have placed on the positive effects of women's employment on a range of demographic and development outcomes. This is particularly true in the Middle East and North Africa (MENA) region, where labor force participation rates are the lowest of any world region (see, e.g., Moghadam 1998; UNDP 2006). Egypt, where the labor force participation rate among women is 23.1%, is one of the MENA countries in which the literature on FLFP is particularly well advanced (Assaad and Krafft 2013). A number of studies have documented barriers to women's employment in Egypt, particularly in the private sector, including gender discrimination among employers (Moghadam 1998; Assaad 2007), restricted geographic mobility (Assaad and Arntz 2005), social norms regarding appropriate employment for women (Assaad 2007), poor working conditions and fear of harassment (Barsoum 2004; Elbadawy and Sieverding 2010) and the difficulty of maintaining employment in the private sector after marriage (Assaad and Hendy 2014). However, few of these studies take into account factors of family background or intergenerational transmission of human capital that may influence women's propensity to enter, and remain in, the labor market. In order to address this gap, in this paper I examine the implications of having a working mother for daughters' employment outcomes in Egypt.

2. Intergenerational Mobility in the Egyptian Context

The prevailing social mobility regime in Egypt has been heavily influenced by the development model adopted during the Nasser regime in the 1950s and 1960s. Following the institution of compulsory and free basic education in the 1950s, higher education in Egypt was declared free for both men and women in 1962 (Antoninis 2001). Shortly thereafter, the Egyptian government adopted a policy of guaranteeing public sector employment to all university graduates. These public employment guarantees were extended to graduates of vocational secondary and post-secondary education in 1964, at which point they were also formalized in law (Assaad 1997). The social and labor market effects of the policies of free higher education and the public employment guarantees have been well-documented (Assaad 1997; Assaad 2008; Barsoum 2004). There is also widespread agreement that the gender-blind application of these policies had a considerable impact on the life expectations of Egyptian women who were reaching adulthood in the 1970s and 1980s, opening up to them new roles and opportunities outside of the household (MacLeod 1991; Hatem 1994; Singerman and Hoodfar 1996; Assaad 2007).

The state-centered development model promoted during this era also created a new model of social mobility based on the association of public sector employment with middle class identity (Ibrahim 1982; MacLeod 1991; see also Cohen (2004) on Morocco). As such, the public sector came to play an important role in shaping employment expectations for educated Egyptians (Assaad 2008; Population Council 2010; Barsoum 2014), as well as to define the standard for socially acceptable employment for women, in part because of the nature of the workplace itself and in part because public sector employment was accommodating of women's roles in the household (Barsoum 2004; Assaad 2007). The decline of public sector hiring, in the context of the continued barriers to women's employment in the private sector discussed above, has in turn led to a decline in female labor force participation since the late 1980s, particularly among highly educated women (Assaad and El Hamidi 2009). However, the implications of these trends in labor force participation for women's social mobility have been largely unexplored.

Literature that has examined the extent to which the state-centered model of social mobility is empirically verified through intergenerational change in socioeconomic outcomes has focused largely on education (El Hamidi 2006; Nugent and Saleh 2009; Assaad 2010; Cupito and Langsten 2011; Sieverding 2012; Salehi-Isfahani, Hassine, and Assaad 2013; Assaad, Salehi-Isfahani, and Hendy 2014). These studies consistently find a positive association between both

mothers' and fathers' educational attainments and that of their children, (Nugent and Saleh 2009; Assaad 2010; Sieverding 2012). Mothers' educational attainments have also been found to be more predictive of their daughters' educational outcomes, and fathers' more so for sons (Sieverding 2012). This suggests that the broader literature on differential parental influences on social mobility by gender does indeed apply to the Egyptian context. However, research on social mobility in Egypt that includes occupational status as an outcome, apart from being focused on father-son pairs, is now quite dated (Ibrahim 1982).

3. Hypotheses

In high-income countries, having a working mother is usually hypothesized to have a positive influence on daughters' labor force participation rates and occupational destinations because of socialization (role modeling) or intergenerational transfer of human, social and financial capital (Stevens and Boyd 1980; Kalmijn 1994; van Putten et al. 2008). Following this literature, I hypothesize that daughters of working mothers will be more likely to work themselves (H1). Furthermore, as the standard operationalization of having a working mother is the mother's employment status at the time the respondent was 15, by this definition the daughters of working mothers had mothers who worked after marriage. Given the substantial evidence that marriage is a common point of withdrawal from the labor market for women in Egypt (Assaad and El Hamidi 2009; Assaad and Hendy 2014), I hypothesize that there will also be a positive relationship between mothers' employment and daughters' employment after marriage (H2).

(H1) Women with mothers who engaged in paid employment will be more likely to be currently employed than their peers whose mothers did not work.

(H2) Women with mothers who engaged in paid employment will be more likely to work after marriage than their peers whose mothers did not work.

However, in the context of Egypt's difficult labor market for women, the daughters of mothers who held private sector jobs that are generally difficult to maintain after marriage may have seen the challenges their mothers faced balancing work and home, and decide that they would rather stay home themselves. Working mothers who faced difficult employment conditions may also prefer to shield their daughters from employment, using their social, financial and human capital to try to secure their daughters' futures through education or marriage instead. For this reason, I hypothesize that the positive relationship between mothers' and daughters' employment status will be dependent on sector of employment (H3).

(H3) The positive relationships between mothers' and daughters' employment will hold only for women whose mothers worked in the public sector.

(H4) Mothers' employment status will be more predictive than that of fathers for daughters' employment status.

Yet overall, I hypothesize that mothers' labor force status will be more predictive for their daughters' outcomes than that of fathers (H4), precisely because mothers who engage in paid work are relatively uncommon, whereas a large majority of fathers work. The finding that mothers' education is more predictive than fathers' for their daughters' educational outcomes in Egypt, and of intergenerational associations between mothers' and daughters' outcomes in other contexts, also suggests that the same may be true for employment in Egypt.

4. Method

4.1 Data

The analysis in this paper relies on the Egypt Labor Market Panel Survey (ELMPS) compatible 1998, 2006 and 2012 waves.[1] The analysis is restricted to the female Working Age Population, or women who were aged 15 – 64 at the time of the survey. Women who were currently studying at the time of the survey are excluded from the analysis, as women who are out of the labor force due to education may intend to work when they complete their schooling. This leaves 30,239 observations in the analytic sample, 44.5% of which were surveyed in 2012. The analysis is also restricted to paid work, as the implications of unpaid family work for class definitions and social mobility are less clear. For both outcome variables (women's employment) and covariates (mothers', fathers' and husbands' employment), individuals who were engaged in unpaid family work are therefore coded as out of the labor force.

4.2 Outcomes

The primary outcome of interest is a binary indicator of whether the respondent has ever engaged in paid work (yes = 1), regardless of whether or not she was working at the time of the survey. Two alternative labor force outcomes are also used to further examine the intergenerational dynamics of women's employment. One of these is a binary indicator of whether the respondent was in the labor force at the time of the survey (yes = 1), a proxy for desire to work that accounts for the fact that some women are unemployed but are searching for employment. In other words, this definition allows for an examination of whether having an employed mother is associated with wanting to work, even if the respondent is unable to find a job.

The third outcome measure is a categorical indicator of current employment status at the time of the survey that codes the respondent as being wage employed in the public sector, wage employed in the private sector, self-employed (including employers), or not currently working (including both unemployed and out of the labor force). This definition is adopted because wage employment and self-employment have been posited to have different implications for social mobility (Beller 2009), as well as women's empowerment (Donahoe 1999). In addition, given the legacy of the public employment guarantees in Egypt, the dynamics between mothers' public versus private sector wage work and their daughters' employment may be different. Thus, if there is intergenerational continuity in the type of employment that women take up, this may have implications for their other outcomes.

4.3 Covariates

The ELMPS collected rich data on parental characteristics that are central to social mobility research, including the educational attainment of both parents and their employment status when the respondent was aged 15. The main predictor variable of interest in this study is the employment status of the respondent's mother, which is coded in the same four-part categorization of public wage employment, private wage employment, self-employment and not working. Father's employment, coded in the same categorizations, is also used as a covariate, as well as both parents' education. Parental education is coded as no schooling (reference), less than vocational secondary[2], vocational secondary, and tertiary or higher[3]. Additional covariates included in all of the multivariate analysis are: cohort of birth, coded in 10-year cohorts from 1940-49 (reference category) through 1990-99; educational attainment,

[1] The analysis is restricted to the market definition of employment, which has clearer implications for social mobility, so the 1988 wave of the ELMS cannot be included.

[2] This category includes those with primary, preparatory and general secondary educational attainment, as these represent the population who obtained some level of formal schooling but did not reach the level of educational attainment required to be eligible for the public employment guarantees.

[3] This category includes post-secondary vocational education, university and post-graduate education.

coded in the same manner as for parents; marital status, coded as never married (reference), currently married and previously married; and region of residence, coded as Cairo (reference), the other Urban Governorates, rural Lower Egypt, urban Lower Egypt, rural Upper Egypt, and urban Upper Egypt. For analyses that are restricted to married women, covariates for husband's education and employment, coded in the same manner as for parents, are included.

4.4 Statistical analysis

The statistical analysis for H1 and H2 relies on logistic regression for models where ever-participation in wage work and current labor force status are the outcomes, and multinomial logistic regression for models where employment status is the outcome variable. In order to test H1 the model is the following:

(M1) Indicator of employment status = α(Birth cohort) + β(Education) + γ(Marital status) +

λ(Geographic region) + ρ(Mother's employment) + δ(Mother's education) + ψ (Father's employment) + κ(Father's education) + ε

In order to test H2, the sample is restricted to married women only and the covariates for husband's characteristics are added in place of marital status.

(M2) Ever worked after marriage = α(Birth cohort) + β(Education) + λ(Geographic region) + + ρ(Mother's employment) + δ(Mother's education) + ψ (Father's employment) + κ(Father's education) + ν(Husband's education) + ϕ(Husband's employment) + ε

To test H3 and H4, a chi-squared test of the differences in the coefficients on mothers' sectors' of employment and the joint effects of mothers' versus fathers' employment status, respectively, are conducted. Robust standard errors clustered at the individual level to account for repeat observations of some individuals across the three survey waves are calculated for all models.

To check the robustness of these results, a second specification of the models is run that includes fixed effects for the respondent's community of residence at the time of the survey. Community acceptance of and prevailing norms regarding women's work may influence women's decisions about employment,[4] decisions that are also typically made in conjunction with family (Sieverding 2012). In this analysis, community is proxied by the Primary Sampling Unit (PSU) of the respondent's household, which is the smallest geographic unit available in the ELMPS. The respondents included in this analysis resided in 1,624 unique PSUs across the three waves of the ELMPS included in the analysis.[5] As most young people in Egypt live with their families until marriage and marriage is typically patrilocal (Sieverding and Ragab 2015), this is likely to be the community of origin for unmarried women and the community of husband's origin for those who are married. However, to the extent that family (including in-law) and community context are determinants of women's employment, the community of current residence is likely to have the greatest influence on current labor force and employment statuses. For the ever-worked indicator, this proxy is weaker, particularly for women who only worked prior to marriage. Finally, an interaction term between mother's employment status and daughters' cohort of birth is added to the fixed effects models to examine whether the strength of the association between mothers' and daughters' outcomes has changed over time.

[4] See Hanan Nazier and Racha Ramadan, "Women's participation in the labor market in Egypt: Constraints and opportunities" for an analysis of community effects on women's employment.

[5] Because fixed effects are included at the PSU level, a weighted model would require that all units within the PSU have the same weight, which is not the case in the ELMPS because of the panel structure. For consistency, all of the analyses in this paper are therefore run without weights. A comparison of the weighted and unweighted logit and multinomial logit models (without fixed effects) indicated that the results are very similar and do not change the interpretation of the findings. Region of residence is also dropped from the fixed effects analyses because there is no within-PSU variation on this variable.

5. Results

5.1 Sample characteristics

As expected, the percentage of women engaged in paid work according to any of the three outcome definitions was low. Just under a quarter of the sample (24.3%) had ever been engaged in paid work, and 23.1% were currently in the labor force. However, a substantial percentage of the latter group were unemployed, as reflected by the employment status variable. At the time of the survey, 82.8% of women were not currently working, with 10.9% of women engaged in public sector wage employment, 3.4% in private sector wage employment, and 2.9% in self-employment.

Table 1 demonstrates the extent to which women who engage in paid employment in Egypt are a selected population, comparing the socio-demographic characteristics of the sample across those who had and had not ever been engaged in wage work. Ever-working women were more concentrated in the 1950 – 1979 birth cohorts than women who had never worked, reflecting the greater opening of public employment to these cohorts than the generations of women who came before and after them. Again reflecting the legacy of the public employment guarantees, women who had ever worked for pay were much more likely to have higher educational attainments, with 32% holding a vocational secondary degree and 38% a tertiary degree, compared to 24% and 10% of women who had never worked, respectively. As expected, given the distribution of job opportunities in Egypt, ever-working women were also more concentrated in urban areas and particularly Cairo. Ever-working women were also somewhat more likely to be never- or previously-married than women who had never worked, with 71% currently married compared to 76% who had never worked.

Turning to mother's employment, the descriptive analysis indicates that ever-working women were more likely to have a mother who was working when they were age 15. Only 7% of women in the sample (N = 2,072) had a mother who was engaged in paid employment when they were growing up. Four percent of women (N= 1,134) had a mother who was employed in the public sector, 1% (N= 303) a mother employed in the private sector, and 2% (N = 635) a mother who was self-employed. However, among women who had ever worked, 10% had a mother who was wage employed (8% in the public sector and 2% in the private sector), compared to 4% among those who had never worked. The difference in percentage of mothers who were self-employed was smaller, with 3% of ever-working women and 2% of never-working women having a mother who was self-employed when they were aged 15. The overall difference in the distribution of mothers' work status was significant at the $p<0.001$ level.

The other parental background characteristics reflect the fact that working women tend to be more highly educated, and that parental education is still a strong predictor of educational attainment in Egypt. Women who had ever been employed had more educated mothers and fathers than those who had never worked, and were more likely to have a father who was wage employed in the public sector. Similarly, among married women whose husbands were present in the household, those who had ever worked were more likely to have a highly educated husband. This may reflect assortative mating and educational homogamy (or hypergamy for women) in the marriage market. Correspondingly, women who had ever worked were also more likely to have a husband who was employed in the public sector, again reflecting the greater access of the educated population to government jobs.

5.2 The role of mothers in predicting women's employment status

Although the descriptive results show that women who had ever worked were more likely to have working mothers, this is likely at least in part due to the fact that working women in general are highly selected on educational attainment and residence. This section therefore presents multivariate analysis of the predictors of women's employment in order to examine

whether this relationship holds after controlling for these other predictors of women's employment.

Table 2 presents the results of the model testing H1 across the three outcomes of ever working, current labor force participation and current employment status. The results for the socioeconomic characteristics confirm the descriptive results, indicating that women born in the 1950s and 1960s were more likely to work, according to all definitions, compared to those born in the 1940s. Women born from the 1970s onward, in contrast, were consistently less likely to work across all definitions, with the notable exception of private wage work. However, the magnitude of the association between cohort and private wage work declines among younger women, rather than increasing as we might expect if young women were gradually adjusting to the unavailability of public sector jobs. This is in keeping with evidence that the youngest cohorts of young women may prefer to exit the labor market rather than accept private sector jobs (Barsoum 2004; Assaad 2008; Roushdy and Selwaness 2015).

Compared to women with no schooling, all groups of women with some schooling had higher odds of being in the labor force or ever wage employed, with the odds steadily increasing with educational attainment. However, the multinomial logit model for employment status demonstrates the degree to which this relationship was conditioned on type of employment. Compared to women with no education, those with a vocational secondary degree or less were about 27% less likely to be self-employed. The likelihood of being in self-employment was not significantly different for women with a tertiary education, although this may reflect differences in the type of self-employment women were engaged in, which include home-based projects as well as owning businesses. The odds of being engaged in public sector employment, as expected, increased dramatically with educational attainment and particularly for those with a tertiary degree. The association between education and private wage employment was less pronounced, although still strongly in favor of women with higher educational attainment. Those with a vocational secondary degree were 59% more likely to engage in private wage employment than uneducated women, and those with a tertiary degree 200% more likely.

Compared to never married women, currently married women were 20% less likely to have ever worked but 72% less likely to be currently in the labor force. They were also significantly less likely to be engaged in either form of wage employment, again reflecting the tendency of women to drop out of the labor force upon marriage. In contrast, married women had 100% higher odds of being self-employed, likely reflecting the demands of balancing work and family, as self-employment is more flexible. Previously married women had even higher odds of engaging in self-employment. In terms of region, women in Upper Egypt and rural regions were more likely to be engaged in self-employment than those in Cairo, and women in all regions were more likely to be engaged in public wage employment. In contrast, they were less likely to be engaged in private wage employment, reflecting the concentration of formal private sector jobs in Cairo.

Turning to the main variable of interest, mother's employment remained a strong predictor of women's employment status in the multivariate analysis. Compared to women whose mothers were not working at the time they were age 15, women whose mothers were wage employed in the public sector had 76% higher odds of having ever worked (OR=1.76, $p<0.001$). The odds for women whose mothers were wage employed in the private sector (OR=4.58, $p<0.001$) or self-employed (OR=3.39, $p<0.001$) were even higher. Comparisons of the coefficients indicate that the magnitude of the associations with mothers' private sector wage employment and self-employment, respectively, are both significantly ($p<0.001$) larger than the association with mothers' public sector wage employment. However, the coefficients on private wage employment and self-employment are not significantly different from each other. Although women whose mothers had worked in any form of employment had 77 – 93% higher odds of

having been in the labor force at the time of the survey, the magnitude of the coefficients by type of mother's employment was not significantly different for this outcome.

Finally, the type of employment mothers were engaged in does also seem to have some intergenerational influence. Women whose mothers were employed in the public sector were only significantly more likely to have been employed in the public sector (OR=2.41, $p<0.001$); the associations with self-employment and private sector wage work among daughters were not significant. In contrast, women whose mothers were engaged in private sector wage work were more likely to have engaged in all types of work, although the associations with self-employment (OR=2.04, $p<0.05$) and public wage employment (OR=1.74, $p<0.05$) were only marginally significant. Women whose mothers were engaged in private wage employment were themselves 188% ($p<0.001$) also more likely to be engaged in private wage work than women whose mothers did not work. Finally, mothers' self-employment was highly predictive of self-employment among daughters (OR=5.36, $p<0.001$) but was not predictive of public sector wage employment and less strongly associated with private sector wage employment (OR=1.66, $p<0.05$).

Once accounting for mother's employment, there were few significant associations between other parental background characteristics and women's employment status. Women whose mothers had vocational secondary and tertiary education were about 40% less likely to have ever worked, and were less likely to be engaged in public employment, although this association was only marginally significant. This suggests that women from higher class backgrounds – as proxied by having a highly educated mother, which is a select population in Egypt particularly for earlier cohorts – may have been less likely to work than their peers who are otherwise similar because they did not need to. The only significant association between fathers' employment status and their daughters' labor market outcomes was that the daughters of public sector wage employed fathers had 26% higher odds of having ever worked for pay, although this was only significant at the $p<0.05$ level. Although the joint effect of fathers' employment status on the likelihood of daughters having ever worked was significant ($p<0.05$), the joint effect of mothers' employment status was significantly larger than the joint effect of fathers' employment status ($p<0.001$).

The results were very similar for the sample of married women only (Table 3). All types of mothers' employment were again associated with higher odds of married women being currently in the labor force and having ever engaged in paid work. The associations by work status were also very similar, with the exception that the relationship between mother's self-employment and daughter's private wage employment was not significant for this subsample. Husband's characteristics were also significantly associated with their wives' employment status in several cases. Women with more educated husbands were more likely to be employed in the public sector, and those whose husbands were engaged in public sector employment were more likely to be employed in the public sector themselves, to have ever worked, and to be currently in the labor market. Women with husbands who were wage employed in the private sector were also more likely to work in the private sector themselves (OR=2.36, $p<0.01$). These associations may reflect assortative mating by education and employment status. In contrast, women whose husbands were self-employed were 25% less likely to have ever worked for a wage and 37% less likely to be currently in the labor force than those whose husbands were not working. They were also less likely to be self-employed or wage workers in the public sector. This may be a product of the coding of unpaid family workers as out of the labor force in this analysis; if women whose husbands have an enterprise tend to work in that enterprise without pay, it may explain their lower propensity to engage in wage work.[6]

[6] The results of the analysis for married women were very similar when husbands' characteristics were removed from the model, in which case women whose husbands were not present in the household were included in the sample.

5.3 Community-level fixed effects

Table 4 presents the models for ever-participation in wage work and current labor force status including community (PSU-level) fixed effects for both the full and married samples.[7] For both samples, the results for ever-participation in wage work are substantively similar to the models without fixed effects. All types of mothers' employment were associated with significant increases in the odds of daughters having ever worked. However, with the community level covariates, the association between mothers' private sector wage work and daughters' current participation in the labor force became insignificant for both the full and married samples. The association with mothers' self-employment also became weaker, significant at the $p<0.05$ level (OR=1.30, 1.60 for the full and married samples, respectively).

Finally, in Table 5, an interaction term between mothers' employment status and daughters' cohort of birth is added to the fixed effects models. The only significant interactions were between mothers' self-employment and daughters' birth cohort for the full sample. For both ever-participation in wage work and current labor force participation, the results suggest that the association between mothers' self-employment and daughter's work weakened among younger cohorts of daughters. The strength of the associations between other types of mothers' employment and their daughters' labor market outcomes did not vary significantly over time.

6. Discussion

The results of this analysis contribute a new perspective to the literature on the barriers to and predictors of women's employment in Egypt, which has focused primarily on labor market factors (e.g., declining availability of public sector jobs, and discrimination) and the dynamics of women's marital households, especially husband opposition and work-family conflict. The findings demonstrate that mothers' work status is highly predictive of their daughters' labor market outcomes, suggesting that there is also an intergenerational dynamic to women's paid employment that is related to their experience in their natal household. Returning to the four hypotheses posed above, I find general support for Hypotheses 1 and 2. Among both the full sample of non-student women aged 15 – 64 and the subsample of those who were married, having a mother who engaged in paid work was associated with significantly increased odds of ever having worked and being in the labor force at the time of the survey. Hypothesis 4, that mothers' employment status will be more predictive for daughters' outcomes than fathers' employment status, was also supported.

However, the results also suggest that the type of employment that mothers engage in matters, and that there is a degree of intergenerational continuity in employment status. Mothers' employment in the public sector was only predictive of daughters' employment in the same sector, whereas mothers' private wage employment was predictive of daughters' engagement in all forms of employment, and mothers' self-employment was predictive of daughters' self-employment and private wage employment. In both of the latter cases, the strength of the association between mothers' employment status and daughters' participation in the same status was the strongest. Accordingly, I do not find support for Hypothesis 3, that the positive relationship between mothers' and daughters' employment status will only hold when the mother was employed in the public sector.

On the other hand, the inclusion of fixed effects in the models causes the association between mothers' private sector wage work and daughters' current participation in the labor market to disappear, and the association with mothers' self-employment to weaken. The association with mothers' public sector employment, in contrast, is not as affected, suggesting that community-level factors may condition the relationship between mothers' private sector work, broadly speaking, and daughters' employment outcomes in a way that is not the case for public sector

[7] The multinomial logit model for employment status with fixed effects did not converge.

work. This may be a result of the fact that the public sector employment guarantees were a national policy, whereas the conditions that allowed mothers to enter private wage or self-employment may be more locally specific. Mothers who engaged in private sector wage work in particular were likely to be a highly selected group that were influenced by local context. Such contextual factors may include the availability of private sector wage jobs, as well as community norms and preferences regarding women's employment outside of the widely accepted public sector. In this sense, it is somewhat surprising that the association between mothers' public sector employment and daughters' outcomes has not weakened for younger cohorts.

The analysis also suggests that intergenerational mobility in self-employment is different from that in public wage employment. There does not appear to be intergenerational continuity between these two employment statuses (with private wage employment positioned somewhat in the middle). For the population of women with the educational credentials to access, or aspire to, employment in the public sector, self-employment may not be perceived to be a comparable option. Conversely, the population of women who turn to self-employment may not have access to the wage sector. That mothers' self-employment is the only type of employment for which the intergenerational association is weakening also suggests that there may be a change in preferences away from this type of work, which might be the case, for example, if much self-employment was based on rural industries.

It is not possible to determine from this analysis what the mechanisms are behind women's greater propensity to work when they had working mothers. Given the structural conditions of the Egyptian labor market, some of this is almost certainly due to human capital transmission, as the daughters of educated mothers are more likely to be educated themselves, and therefore to have greater access to the formal, and especially public, sector. The same may be true of social capital. As use of '*wasta'* to secure jobs is common in Egypt, at least among younger generations (Population Council 2010), mothers who have ties within workplaces may be more able to secure their daughters' employment. There is also a public employment scheme for the children of public sector workers (*abna 'ameleen*), which allows direct intergenerational transmission of employment status for these workers in that mothers may have the ability to bring their daughters into their workplaces. Mothers who are self-employed may hire their daughters or pass down businesses to them. However, there may also be an aspect of role modeling that makes the daughters of working mothers more likely to enter the labor market. This is especially pertinent given that the majority of daughters of working mothers still do not work even though their mothers did. Although these daughters were also presumably exposed to the same potential advantages in terms of transmission of human and social capital, they still chose not to work. There are also likely unobservable factors related to women's households, including attitudes towards work that are not captured in the community fixed-effects and are influencing this relationship.

The intergenerational dynamics of women's employment have both positive and negative implications for policy measures to encourage women's labor force participation. On the one hand, these findings make the current trend of declining labor force participation among women (Assaad and Krafft 2015), and among female youth in particular (Roushdy, Rashed, and Salemi 2015), all the more alarming. If this generation of young mothers and soon-to-be-mothers continues to have such limited experience with the labor market, they are even less likely to have social capital to pass on to their daughters, or to serve as role models to be followed. On the other hand, if women entering the labor market and continuing to work after having children makes their daughters more likely to work, successful policies to encourage women's labor force participation may have ripple effects for subsequent generations.

References

Antoninis, Manos. 2001. *The Vocational School Fallacy Revisited: Technical Secondary Schools in Egypt*. San Domenico di Fiesole Italy: European University Institute.

Aschaffenburg, Karen. 1995. "Rethinking Images of the Mobility Regime: Making a Case for Women's Mobility." *Research in Social Stratification and Mobility* 14: 201–36.

Assaad, Ragui. 1997. "The Effects of Public Sector Hiring and Compensation Policies on the Egyptian Labor Market." *The World Bank Economic Review* 11 (1): 85–118.

———. 2007. "Institutions, Household Decisions, and Economic Growth in Egypt." In *Explaining Growth in the Middle East*, edited by Jeffrey Nugent and M. Hashem Pesaran, 385–411. Amsterdam: Elsevier.

———. 2008. "Unemployment and Youth Insertion in the Labor Market in Egypt." In *The Egyptian Economy: Current Challenges and Future Prospects*, edited by Hana Khayr al-Din, 133–78. Cairo: American University in Cairo.

———. 2010. "Equality for All? Egypt's Free Public Higher Education Policy Breeds Inequality of Opportunity." 2. Economic Research Forum Policy Perspective, No. 2. Cairo: Economic Research Forum.

Assaad, Ragui, and Melanie Arntz. 2005. "Constrained Geographical Mobility and Gendered Labor Market Outcomes Under Structural Adjustment: Evidence from Egypt." *World Development* 33 (3): 431–54.

Assaad, Ragui, and Fatma El Hamidi. 2009. "Women in the Egyptian Labor Market: An Analysis of Developments, 1988-2006." In *The Egyptian Labor Market Revisited*, edited by Ragui Assaad, 117–56. Cairo: American University in Cairo Press.

Assaad, Ragui, and Rana Hendy. 2014. "On the Two-Way Relation between Marriage and Work: Evidence from Egypt and Jordan." In *ERF 19th Annual Conference*. Kuwait: ERF.

Assaad, Ragui, and Caroline Krafft. 2013. "The Egypt Labor Market Panel Survey: Introducing the 2012 Round." *IZA Journal of Labor & Development* 2 (1): 8.

———. , eds. 2015. *The Egyptian Labor Market in an Era of Revolution*. Oxford: Oxford University Press.

Assaad, Ragui, Djavad Salehi-Isfahani, and Rana Hendy. 2014. "Inequality of Opportunity in Educational Attainment in Middle East and North Africa: Evidence from Household Surveys." ERF Working Ppaer 834. Cairo: ERF.

Barsoum, Ghada. 2004. *The Employment Crisis of Female Graduates in Egypt: An Ethnographic Account*. Cairo Papers in Social Science. Cairo: American University in Cairo Press.

———. 2014. "Young People's Job Aspirations in Egypt and the Continued Preference for a Government Job." ERF Working Paper 838. Cairo: ERF.

Beller, Emily. 2009. "Bringing Intergenerational Social Mobility Research into the Twenty-First Century: Why Mothers Matter." *American Sociological Review*. 74 (4): 507.

Buis, Maarten L. 2013. "The Composition of Family Background: The Influence of the Economic and Cultural Resources of Both Parents on the Offspring's Educational Attainment in the Netherlands between 1939 and 1991." *European Sociological Review* 29 (3): 593–602.

Cohen, Shana. 2004. *Searching for a Different Future: The Rise of a Global Middle Class in Morocco*. Durham, NC: Duke University Press.

Cupito, Emily, and Ray Langsten. 2011. “Inclusiveness in Higher Education in Egypt.” *Higher Education* 62 (2): 183–97.

Desai, Sonalde, and Devaki Jain. 1994. “Maternal Employment and Changes in Family Dynamics: The Social Context of Women’s Work in Rural South India.” *Population and Development Review* 20 (1): 115–36.

Donahoe, Debra. 1999. “Measuring Women’s Work in Developing Countries.” *Population and Development Review* 25 (3): 543–76.

Elbadawy, Asmaa, and Maia Sieverding. 2010. “The Labor Market Situation of Egyptian Youth: Where Do Women Stand?” presented at the Children and Youth in the MENA Region: Toward Unleashing their Potentials, Beirut.

El Hamidi, Fatma. 2006. “General or Vocational Schooling? Evidence on School Choice, Returns, and Sheepskin Effects from Egypt 1998.” *Journal of Economic Policy Reform* 9 (2): 157–76.

Entwisle, Barbara, and Feinian Chen. 2002. “Work Patterns Following a Birth in Urban and Rural China: A Longitudinal Study.” *European Journal of Population/Revue Européenne de Démographie* 18 (2): 99–119.

Hatem, Mervat. 1994. “Privatization and the Demise of State Feminism in Egypt.” In *Mortgaging Women’s Lives: Feminist Critiques of Structural Adjustment*, edited by Pamela Sparr, 40–60. London: Zed Books.

Ibrahim, Saad Eddin. 1982. “Social Mobility and Income Distribution in Egypt, 1952-1977.” In *The Political Economy of Income Distribution in Egypt*, edited by Judah Abd al -Khaliq, 375–434. New York: Holmes & Meier.

Kalmijn, M. 1994. “Mother’s Occupational Status and Children’s Schooling.” *American Sociological Review*, 257–75.

Khazzoom, Aziza. 1997. “The Impact of Mother’s Occupations on Children’s Occupational Destinations.” *Research in Social Stratification and Mobility* 15: 57–90.

Korupp, Sylvia E., Harry B. G. Ganzeboom, and Tanja Van Der Lippe. 2002. “Do Mothers Matter? A Comparison of Models of the Influence of Mothers’ and Fathers’ Educational and Occupational Status on Children’s Educational Attainment.” *Quality & Quantity* 36 (1): 17–42.

Lambert, Sylvie, Martin Ravallion, and Dominique van de Walle. 2014. “Intergenerational Mobility and Interpersonal Inequality in an African Economy.” *Journal of Development Economics*, Land and Property Rights, 110 (September): 327–44.

Lampard, Richard. 2012. “Parental Characteristics, Family Structure and Occupational Attainment in Britain.” *Sociology* 46 (6): 1020–38.

Lloyd, Cynthia. 1991. “The Contribution of the World Fertility Surveys to an Understanding of The Relationship Between Women’s Work and Fertility.” *Studies in Family Planning* 22 (3): 144–61.

MacLeod, Arlene. 1991. *Accommodating Protest: Working Women, the New Veiling, and Change in Cairo*. New York: Columbia University Press.

Malhotra, Anju, and Amy Ong Tsui. 1999. “Work and Marriage: Mother-Daughter Similarities in Sri Lanka.” *Journal of Comparative Family Studies* 30 (2): 219–41.

Moghadam, Valentine. 1998. *Women, Work, and Economic Reform in the Middle East and North Africa*. Boulder, C.O.: Lynne Rienner Publishers.

Nugent, Jeffrey, and Mohamed Saleh. 2009. “Intergenerational Transmission Of, and Returns to Human Capital and Changes Therein over Time: Empirical Evidence from Egypt.” 468. Cairo: ERF.

Population Council. 2010. “Survey of Young People in Egypt.” Cairo: Population Council.

Roushdy, Rania, Ali Rashed, and Colette Salemi. 2015. “Survey of Young People in Egypt 2014: Preliminary Report.” Cairo: Population Council.

Roushdy, Rania, and Irene Selwaness. 2015. “Young People’s Labor Market Outcomes during a Period of Transition.” In *Panel Survey of Young People in Egypt 2014: Generating Evidence for Policy, Programs and Research*, edited by Rania Roushdy and Maia Sieverding. Cairo: Population Council.

Salehi-Isfahani, Djavad, Nadia Belhaj Hassine, and Ragui Assaad. 2013. “Equality of Opportunity in Educational Achievement in the Middle East and North Africa.” *The Journal of Economic Inequality*, 1–27.

Sieverding, Maia. 2012. “Gender and Generational Change in Egypt.” Ph.D. Diss., Berkeley: University of California Berkeley.

Sieverding, Maia, and Ahmed Ragab. 2015. “Marriage and Family Formation Trends among Youth in Egypt.” In *Panel Survey of Young People in Egypt 2014: Generating Evidence for Policy, Programs and Research*, edited by Rania Roushdy and Maia Sieverding. Cairo: Population Council.

Singerman, Diane, and Homa Hoodfar. 1996. “The Household as Mediator: Political Economy, Development and Gender in Contemporary Cairo.” In *Development, Change and Gender in Cairo*, edited by Diane Singerman and Homa Hoodfar, 27–50. Bloomington: Indiana University Press.

Sorensen, A. 1994. “Women, Family and Class.” *Annual Review of Sociology* 20 (1): 27–45.

Stevens, Gillian, and Monica Boyd. 1980. “The Importance of Mother: Labor Force Participation and Intergenerational Mobility of Women.” *Social Forces* 59 (1): 186–99.

Torche, Florencia. 2015. “Intergenerational Mobility and Gender in Mexico.” *Social Forces*, July, sov082.

UNDP. 2006. “The Arab Human Development Report 2005: Towards the Rise of Women in the Arab World.” New York: United Nations Development Programme, Regional Bureau for Arab States.

Van Putten, Anne E., Pearl A. Dykstra, and Joop J. Schippers. 2008. “Just Like Mom? The Intergenerational Reproduction of Women’s Paid Work.” *Eur Sociol Rev* 24 (4): 435–49.

Table 1: Sample Characteristics

	Total	Ever engaged in paid work		Diff
		No	Yes	
Birth cohort				***
Cohort 1940-49	0.08	0.08	0.07	
Cohort 1950-59	0.16	0.15	0.18	
Cohort 1960-69	0.19	0.17	0.26	
Cohort 1970-79	0.23	0.23	0.25	
Cohort 1980-89	0.29	0.31	0.23	
Cohort 1990-99	0.06	0.07	0.02	
Education				***
No schooling	0.42	0.49	0.22	
Less than vocational sec.	0.15	0.17	0.08	
Vocational sec.	0.26	0.24	0.32	
Tertiary or above	0.17	0.10	0.38	
Marital status				**
Never married	0.15	0.15	0.16	
Married	0.74	0.76	0.71	
Previously married	0.11	0.10	0.13	
Region				***
Cairo	0.14	0.12	0.22	
Urban Govs (excl. Cairo)	0.10	0.09	0.13	
Urban Lower	0.13	0.13	0.15	
Urban Upper	0.15	0.14	0.17	
Rural Lower	0.25	0.26	0.21	
Rural Upper	0.23	0.26	0.12	
Mother employment status				***
Not engaged in paid work	0.93	0.95	0.88	
Public wage employed	0.04	0.03	0.08	
Private wage employed	0.01	0.01	0.02	
Self-employed	0.02	0.02	0.03	
Mother education				***
No schooling	0.89	0.91	0.80	
Less than vocational sec.	0.05	0.04	0.08	
Vocational sec.	0.04	0.03	0.07	
Tertiary or above	0.02	0.01	0.05	
Father employment status				***
Not engaged in paid work	0.02	0.03	0.02	
Public wage employed	0.32	0.29	0.44	
Private wage employed	0.28	0.30	0.22	
Self-employed	0.37	0.39	0.32	
Father education				***
No schooling	0.76	0.81	0.63	
Less than vocational sec.	0.10	0.09	0.14	
Vocational sec.	0.08	0.06	0.12	
Tertiary or above	0.06	0.04	0.12	
Husband education^				***
No schooling	0.33	0.38	0.18	
Less than vocational sec.	0.19	0.21	0.14	
Vocational sec.	0.27	0.26	0.27	
Tertiary or above	0.21	0.15	0.41	
Husband employment status^				***
Not engaged in paid work	0.09	0.10	0.08	
Public wage employed	0.31	0.26	0.48	
Private wage employed	0.33	0.35	0.27	
Self-employed	0.27	0.30	0.17	

Notes: *** p<0.001, ** p<0.01, * p<0.05. ^Only among married respondents whose husband was present in the household

Table 2: Logistic and Multinomial Regression Models for Women's Employment Outcomes by Mother's Employment Status, Full Sample (Odds Ratios)

	(1) Ever worked	(2) In LF	Self employed	(3) Public wage	Private wage
Cohort 1950-59	1.301***	1.816***	1.517**	2.228***	1.770*
	[1.154 - 1.466]	[1.542 - 2.139]	[1.171 - 1.964]	[1.719 - 2.888]	[1.041 - 3.009]
Cohort 1960-69	1.412***	2.237***	2.031***	1.652***	5.413***
	[1.249 - 1.595]	[1.898 - 2.637]	[1.560 - 2.645]	[1.282 - 2.128]	[3.284 - 8.920]
Cohort 1970-79	0.588***	0.958	1.283	0.304***	4.139***
	[0.514 - 0.673]	[0.807 - 1.138]	[0.958 - 1.718]	[0.235 - 0.394]	[2.456 - 6.976]
Cohort 1980-89	0.325***	0.588***	0.579**	0.132***	3.423***
	[0.282 - 0.375]	[0.493 - 0.700]	[0.413 - 0.811]	[0.101 - 0.172]	[2.020 - 5.799]
Cohort 1990-99	0.169***	0.334***	0.265***	0.027***	1.922*
	[0.131 - 0.218]	[0.259 - 0.431]	[0.125 - 0.564]	[0.015 - 0.051]	[1.034 - 3.574]
Less than vocational sec.	1.407***	1.466***	0.730**	5.226***	1.212
	[1.257 - 1.574]	[1.286 - 1.673]	[0.577 - 0.922]	[3.816 - 7.157]	[0.957 - 1.535]
Vocational sec.	4.953***	8.573***	0.722**	78.751***	1.593***
	[4.500 - 5.451]	[7.737 - 9.500]	[0.569 - 0.917]	[60.994 - 101.678]	[1.291 - 1.967]
Tertiary or above	13.438***	23.461***	0.903	281.729***	3.013***
	[12.052 - 14.985]	[20.851 - 26.399]	[0.644 - 1.265]	[215.194 - 368.836]	[2.373 - 3.826]
Married	0.801***	0.279***	2.036***	0.774***	0.146***
	[0.731 - 0.878]	[0.255 - 0.305]	[1.394 - 2.974]	[0.676 - 0.886]	[0.126 - 0.171]
Previously married	1.467***	0.635***	6.265***	1.187	0.526***
	[1.288 - 1.670]	[0.550 - 0.732]	[4.161 - 9.434]	[0.942 - 1.495]	[0.394 - 0.703]
Urban Govs (excl. Cairo)	0.896	1.076	0.976	1.441***	0.688***
	[0.802 - 1.002]	[0.953 - 1.214]	[0.666 - 1.431]	[1.213 - 1.711]	[0.557 - 0.849]
Urban Lower	0.751***	1.605***	1.359	1.938***	0.510***
	[0.676 - 0.834]	[1.432 - 1.800]	[0.991 - 1.865]	[1.648 - 2.278]	[0.409 - 0.636]
Urban Upper	0.811***	1.446***	1.618**	2.611***	0.277***
	[0.734 - 0.897]	[1.295 - 1.615]	[1.196 - 2.189]	[2.236 - 3.049]	[0.214 - 0.358]
Rural Lower	0.797***	1.432***	1.761***	1.989***	0.516***
	[0.722 - 0.879]	[1.285 - 1.595]	[1.337 - 2.321]	[1.693 - 2.337]	[0.426 - 0.625]
Rural Upper	0.693***	1.022	2.148***	1.622***	0.171***
	[0.621 - 0.772]	[0.903 - 1.157]	[1.631 - 2.830]	[1.321 - 1.992]	[0.129 - 0.226]
Mother public wage employed	1.761***	1.774***	1.232	2.406***	1.368
	[1.456 - 2.129]	[1.461 - 2.154]	[0.559 - 2.717]	[1.855 - 3.120]	[0.952 - 1.965]
Mother private wage employed	4.583***	1.836***	2.037*	1.740*	2.880***
	[3.405 - 6.169]	[1.313 - 2.567]	[1.145 - 3.624]	[1.048 - 2.889]	[1.796 - 4.618]
Mother self-employed	3.395***	1.926***	5.356***	1.041	1.658*
	[2.780 - 4.146]	[1.519 - 2.442]	[4.025 - 7.127]	[0.682 - 1.589]	[1.117 - 2.460]
Mother less than voc. sec.	0.996	0.975	1.114	0.977	0.785
	[0.876 - 1.132]	[0.856 - 1.110]	[0.688 - 1.802]	[0.819 - 1.167]	[0.603 - 1.023]
Mother vocational sec.	0.759**	0.907	1.365	0.780*	0.971
	[0.635 - 0.906]	[0.758 - 1.086]	[0.639 - 2.918]	[0.613 - 0.992]	[0.675 - 1.396]
Mother tertiary	0.760*	0.767*	2.336	0.652*	1.008
	[0.591 - 0.978]	[0.593 - 0.992]	[0.912 - 5.983]	[0.464 - 0.917]	[0.638 - 1.592]
Father public wage employed	1.257*	0.963	1.524	1.134	1.082
	[1.013 - 1.560]	[0.790 - 1.174]	[0.730 - 3.179]	[0.814 - 1.581]	[0.783 - 1.495]
Father private wage employed	1.201	0.923	1.736	0.974	1.384
	[0.964 - 1.495]	[0.753 - 1.131]	[0.838 - 3.597]	[0.690 - 1.376]	[0.994 - 1.926]
Father self-employed	1.107	0.864	2.063	0.946	0.905
	[0.891 - 1.376]	[0.708 - 1.055]	[0.999 - 4.258]	[0.676 - 1.324]	[0.647 - 1.267]
Father less than voc. Sec.	1.204***	1.097	1.031	1.079	1.099
	[1.091 - 1.330]	[0.989 - 1.216]	[0.759 - 1.401]	[0.937 - 1.242]	[0.896 - 1.349]
Father vocational sec.	0.999	0.953	0.463**	1.003	0.753*
	[0.888 - 1.123]	[0.846 - 1.075]	[0.268 - 0.799]	[0.856 - 1.175]	[0.571 - 0.992]
Father tertiary	1.103	0.997	0.643	1.028	0.946
	[0.955 - 1.274]	[0.859 - 1.158]	[0.346 - 1.196]	[0.848 - 1.246]	[0.693 - 1.290]
Constant	0.170***	0.139***	0.005***	0.004***	0.049***
	[0.133 - 0.219]	[0.107 - 0.181]	[0.002 - 0.011]	[0.002 - 0.006]	[0.027 - 0.090]
Observations	29,321	29,145	29,140	29,140	29,140

Notes: Robust in brackets. *** p<0.001, ** p<0.01, * p<0.05

Table 3: Logistic and Multinomial Regression Models for Women's Employment Outcomes by Mother's Employment Status, Married Sample (Odds Ratios)

	(1) Ever worked	(2) In LF	Self employed	(3) Public wage	Private wage
Cohort 1950-59	1.245*	1.567***	2.113**	1.344	2.030
	[1.046 - 1.482]	[1.253 - 1.958]	[1.198 - 3.726]	[0.941 - 1.921]	[0.788 - 5.230]
Cohort 1960-69	1.112	1.358**	2.193**	0.720	3.434**
	[0.935 - 1.323]	[1.089 - 1.693]	[1.256 - 3.828]	[0.508 - 1.021]	[1.368 - 8.622]
Cohort 1970-79	0.462***	0.507***	1.446	0.137***	2.098
	[0.383 - 0.556]	[0.403 - 0.639]	[0.816 - 2.562]	[0.096 - 0.195]	[0.815 - 5.400]
Cohort 1980-89	0.263***	0.319***	0.745	0.067***	1.269
	[0.216 - 0.320]	[0.252 - 0.404]	[0.408 - 1.361]	[0.046 - 0.096]	[0.485 - 3.322]
Cohort 1990-99	0.167***	0.215***	0.265*	0.016***	0.721
	[0.119 - 0.234]	[0.151 - 0.306]	[0.092 - 0.762]	[0.007 - 0.038]	[0.211 - 2.466]
Less than vocational sec.	1.360***	1.453***	0.700*	5.890***	0.865
	[1.167 - 1.585]	[1.194 - 1.768]	[0.502 - 0.977]	[3.748 - 9.255]	[0.558 - 1.341]
Vocational sec.	5.104***	10.339***	0.953	99.515***	1.554*
	[4.445 - 5.860]	[8.811 - 12.133]	[0.691 - 1.314]	[66.797 - 148.259]	[1.027 - 2.353]
Tertiary or above	12.573***	28.080***	1.039	332.865***	3.830***
	[10.698 - 14.777]	[23.328 - 33.801]	[0.640 - 1.689]	[218.837 - 506.310]	[2.390 - 6.136]
Urban Govs (excl. Cairo)	0.892	1.140	0.690	1.317*	0.795
	[0.775 - 1.028]	[0.969 - 1.342]	[0.395 - 1.206]	[1.063 - 1.632]	[0.552 - 1.143]
Urban Lower	0.829**	2.116***	1.070	2.111***	0.667*
	[0.725 - 0.948]	[1.817 - 2.464]	[0.680 - 1.682]	[1.719 - 2.593]	[0.459 - 0.971]
Urban Upper	0.889	2.050***	1.701**	2.451***	0.415***
	[0.781 - 1.011]	[1.768 - 2.375]	[1.137 - 2.545]	[2.018 - 2.977]	[0.268 - 0.643]
Rural Lower	0.873*	1.992***	1.721**	2.103***	0.702*
	[0.770 - 0.989]	[1.724 - 2.303]	[1.188 - 2.494]	[1.724 - 2.564]	[0.509 - 0.968]
Rural Upper	0.820**	1.588***	2.159***	1.684***	0.224***
	[0.711 - 0.946]	[1.340 - 1.882]	[1.488 - 3.133]	[1.303 - 2.177]	[0.134 - 0.374]
Mother public wage employed	1.970***	1.792***	1.161	2.507***	0.763
	[1.538 - 2.523]	[1.383 - 2.322]	[0.391 - 3.441]	[1.796 - 3.501]	[0.397 - 1.469]
Mother private wage employed	4.422***	2.227***	1.960	1.938*	3.669***
	[3.003 - 6.512]	[1.412 - 3.514]	[0.897 - 4.279]	[1.058 - 3.547]	[1.884 - 7.148]
Mother self-employed	3.919***	2.310***	6.160***	1.285	1.277
	[2.957 - 5.193]	[1.664 - 3.209]	[4.317 - 8.792]	[0.752 - 2.196]	[0.472 - 3.449]
Mother less than voc. sec.	1.061	1.068	1.023	1.133	0.728
	[0.897 - 1.256]	[0.893 - 1.277]	[0.528 - 1.981]	[0.903 - 1.421]	[0.414 - 1.278]
Mother vocational sec.	0.774*	1.020	1.823	0.897	1.550
	[0.617 - 0.971]	[0.807 - 1.289]	[0.736 - 4.514]	[0.664 - 1.212]	[0.892 - 2.694]
Mother tertiary	0.771	0.811	1.486	0.671	2.211
	[0.552 - 1.078]	[0.572 - 1.149]	[0.327 - 6.763]	[0.432 - 1.043]	[0.998 - 4.900]
Father public wage employed	1.119	0.992	1.445	0.821	0.998
	[0.767 - 1.632]	[0.661 - 1.488]	[0.507 - 4.113]	[0.472 - 1.428]	[0.300 - 3.323]
Father private wage employed	1.022	0.880	1.396	0.693	1.199
	[0.699 - 1.495]	[0.584 - 1.326]	[0.494 - 3.945]	[0.394 - 1.219]	[0.357 - 4.030]
Father self-employed	0.969	0.903	1.663	0.751	0.830

	[0.664 - 1.414]	[0.602 - 1.356]	[0.591 - 4.676]	[0.431 - 1.309]	[0.246 - 2.799]
Father less than voc. Sec.	1.288***	1.145	1.127	1.053	1.268
	[1.133 - 1.464]	[0.997 - 1.315]	[0.756 - 1.679]	[0.879 - 1.262]	[0.867 - 1.856]
Father vocational sec.	1.007	0.928	0.461*	0.911	0.980
	[0.869 - 1.166]	[0.796 - 1.082]	[0.233 - 0.913]	[0.748 - 1.110]	[0.616 - 1.560]
Father tertiary	1.025	0.921	0.751	0.900	0.908
	[0.854 - 1.232]	[0.760 - 1.114]	[0.346 - 1.633]	[0.706 - 1.147]	[0.523 - 1.577]
Husband less than voc. sec.	1.010	0.982	0.884	1.389*	0.853
	[0.884 - 1.155]	[0.839 - 1.150]	[0.675 - 1.158]	[1.022 - 1.888]	[0.590 - 1.233]
Husband vocational sec.	0.952	0.982	0.757	1.492**	0.658*
	[0.833 - 1.088]	[0.844 - 1.142]	[0.556 - 1.032]	[1.128 - 1.973]	[0.444 - 0.975]
Husband tertiary	1.087	1.002	0.757	1.563**	0.948
	[0.939 - 1.260]	[0.849 - 1.182]	[0.505 - 1.134]	[1.170 - 2.088]	[0.618 - 1.452]
Husband public wage employed	1.437***	1.442***	0.970	2.046***	1.269
	[1.252 - 1.649]	[1.229 - 1.693]	[0.685 - 1.374]	[1.630 - 2.570]	[0.741 - 2.176]
Husband private wage employed	1.162*	1.104	1.050	0.871	2.358**
	[1.004 - 1.345]	[0.932 - 1.307]	[0.751 - 1.467]	[0.679 - 1.118]	[1.407 - 3.954]
Husband self-employed	0.750***	0.630***	0.641*	0.631***	0.767
	[0.646 - 0.871]	[0.529 - 0.750]	[0.456 - 0.901]	[0.487 - 0.818]	[0.439 - 1.340]
Constant	0.149***	0.038***	0.011***	0.004***	0.008***
	[0.097 - 0.229]	[0.024 - 0.062]	[0.003 - 0.037]	[0.002 - 0.008]	[0.002 - 0.038]
Observations	19,626	19,598	19,596	19,596	19,596

Notes: Robust in brackets. *** p<0.001, ** p<0.01, * p<0.05

Table 4: Logistic Regression Models with Community Fixed Effects, Full and Married Samples (Odds Ratios)

	Full sample		Married sample	
	(1) Ever worked	(2) In LF	(1) Ever worked	(2) In LF
Cohort 1950-59	1.245**	1.994***	1.149	1.661***
	[1.090 - 1.422]	[1.656 - 2.400]	[0.933 - 1.415]	[1.259 - 2.193]
Cohort 1960-69	1.367***	2.527***	1.017	1.485**
	[1.182 - 1.581]	[2.092 - 3.052]	[0.818 - 1.265]	[1.124 - 1.961]
Cohort 1970-79	0.551***	1.102	0.412***	0.565***
	[0.465 - 0.652]	[0.898 - 1.353]	[0.321 - 0.528]	[0.418 - 0.763]
Cohort 1980-89	0.268***	0.687***	0.205***	0.343***
	[0.222 - 0.325]	[0.553 - 0.852]	[0.155 - 0.269]	[0.250 - 0.469]
Cohort 1990-99	0.123***	0.403***	0.112***	0.203***
	[0.089 - 0.169]	[0.293 - 0.554]	[0.072 - 0.174]	[0.127 - 0.324]
Less than vocational sec.	1.494***	1.544***	1.418***	1.528***
	[1.308 - 1.707]	[1.334 - 1.787]	[1.188 - 1.694]	[1.229 - 1.900]
Vocational sec.	5.237***	8.524***	5.205***	9.877***
	[4.584 - 5.983]	[7.500 - 9.688]	[4.345 - 6.236]	[8.147 - 11.974]
Tertiary or above	14.029***	24.379***	12.863***	27.887***
	[12.014 - 16.383]	[20.990 - 28.316]	[10.369 - 15.957]	[22.381 - 34.748]
Mother public wage employed	1.468***	1.426**	1.774***	1.540**
	[1.184 - 1.820]	[1.138 - 1.787]	[1.324 - 2.376]	[1.141 - 2.079]
Mother private wage employed	3.172***	1.396	3.024***	1.560
	[2.199 - 4.576]	[0.950 - 2.052]	[1.965 - 4.654]	[0.970 - 2.507]
Mother self-employed	2.206***	1.296*	2.593***	1.604*
	[1.723 - 2.823]	[1.002 - 1.676]	[1.765 - 3.810]	[1.056 - 2.435]
Mother less than voc. sec.	0.967	1.026	1.009	1.042
	[0.840 - 1.113]	[0.894 - 1.178]	[0.843 - 1.208]	[0.861 - 1.260]
Mother vocational sec.	0.755**	1.006	0.779	1.108
	[0.620 - 0.919]	[0.817 - 1.240]	[0.605 - 1.002]	[0.845 - 1.454]
Mother tertiary	0.715*	0.944	0.698	0.858
	[0.535 - 0.957]	[0.703 - 1.267]	[0.473 - 1.029]	[0.572 - 1.288]
Father public wage employed	1.280*	0.992	0.955	1.073
	[1.001 - 1.637]	[0.786 - 1.253]	[0.610 - 1.494]	[0.653 - 1.764]
Father private wage employed	1.271	1.008	0.887	0.957
	[0.999 - 1.616]	[0.795 - 1.278]	[0.565 - 1.392]	[0.581 - 1.578]
Father self-employed	1.101	0.880	0.800	0.911
	[0.862 - 1.406]	[0.697 - 1.113]	[0.513 - 1.248]	[0.556 - 1.494]
Father less than voc. Sec.	1.104	1.113	1.175*	1.169*
	[0.988 - 1.233]	[0.996 - 1.244]	[1.019 - 1.355]	[1.004 - 1.360]
Father vocational sec.	0.976	0.927	1.003	0.904
	[0.854 - 1.117]	[0.806 - 1.067]	[0.848 - 1.187]	[0.757 - 1.079]
Father tertiary	1.075	1.022	1.019	0.912
	[0.913 - 1.267]	[0.856 - 1.220]	[0.833 - 1.247]	[0.731 - 1.139]
Husband less than voc. sec.			0.967	1.012
			[0.839 - 1.115]	[0.853 - 1.201]
Husband vocational sec.			0.950	0.997
			[0.817 - 1.104]	[0.845 - 1.176]
Husband tertiary			1.037	1.046
			[0.877 - 1.225]	[0.863 - 1.267]
Husband public wage employed			1.540***	1.480***
			[1.329 - 1.785]	[1.244 - 1.761]
Husband private wage employed			1.183*	1.132
			[1.010 - 1.385]	[0.941 - 1.362]
Husband self-employed			0.722***	0.603***
			[0.614 - 0.848]	[0.500 - 0.727]
Married	0.645***	0.266***		
	[0.576 - 0.721]	[0.235 - 0.300]		
Previously married	1.170*	0.639***		
	[1.005 - 1.361]	[0.542 - 0.753]		
Observations	27,573	27,189	17,640	17,019

Notes: Robust in brackets. *** p<0.001, ** p<0.01, * p<0.05

Table 5: Logistic Regression Models with Community Fixed Effects and Cohort Interaction, Full and Married Samples (Odds Ratios)

	Full sample		Married sample	
	(1) Ever worked	(2) In LF	(1) Ever worked	(2) In LF
Cohort	0.646***	0.754***	0.580***	0.611***
	[0.620 - 0.674]	[0.725 - 0.785]	[0.548 - 0.614]	[0.578 - 0.646]
Mother public wage employed	2.621*	1.038	2.389	0.876
	[1.200 - 5.721]	[0.433 - 2.485]	[0.867 - 6.581]	[0.289 - 2.660]
Mother private wage employed	4.690***	1.756	2.902	3.236
	[1.894 - 11.614]	[0.768 - 4.017]	[0.761 - 11.067]	[0.952 - 11.002]
Mother self-employed	4.667***	5.091***	1.729	1.872
	[2.268 - 9.602]	[2.461 - 10.535]	[0.615 - 4.860]	[0.591 - 5.934]
Mother public wage * cohort	0.869	1.064	0.923	1.122
	[0.736 - 1.026]	[0.885 - 1.279]	[0.745 - 1.144]	[0.886 - 1.422]
Mother private wage * cohort	0.890	0.935	1.001	0.843
	[0.725 - 1.093]	[0.771 - 1.134]	[0.745 - 1.346]	[0.638 - 1.113]
Mother self-employed * cohort	0.820*	0.709***	1.096	0.958
	[0.702 - 0.958]	[0.600 - 0.839]	[0.865 - 1.389]	[0.717 - 1.281]
Less than vocational sec.	1.446***	1.486***	1.375***	1.458***
	[1.261 - 1.658]	[1.281 - 1.724]	[1.149 - 1.645]	[1.170 - 1.816]
Vocational sec.	5.254***	8.514***	5.218***	9.784***
	[4.578 - 6.031]	[7.467 - 9.709]	[4.344 - 6.267]	[8.053 - 11.886]
Tertiary or above	14.152***	24.378***	12.861***	27.192***
	[12.116 - 16.530]	[20.986 - 28.318]	[10.381 - 15.935]	[21.873 - 33.804]
Mother less than voc. sec.	0.959	1.020	0.998	1.043
	[0.835 - 1.102]	[0.891 - 1.167]	[0.834 - 1.194]	[0.864 - 1.258]
Mother vocational sec.	0.712***	0.941	0.757*	1.086
	[0.588 - 0.862]	[0.769 - 1.152]	[0.589 - 0.973]	[0.830 - 1.420]
Mother tertiary	0.679**	0.912	0.678*	0.863
	[0.512 - 0.902]	[0.684 - 1.216]	[0.463 - 0.992]	[0.578 - 1.289]
Father public wage employed	1.308*	1.016	0.959	1.102
	[1.028 - 1.665]	[0.808 - 1.279]	[0.613 - 1.501]	[0.669 - 1.817]
Father private wage employed	1.269*	1.010	0.885	0.985
	[1.002 - 1.607]	[0.799 - 1.277]	[0.564 - 1.388]	[0.595 - 1.630]
Father self-employed	1.111	0.891	0.795	0.929
	[0.873 - 1.412]	[0.707 - 1.122]	[0.510 - 1.241]	[0.565 - 1.527]
Father less than voc. Sec.	1.091	1.105	1.160*	1.161
	[0.977 - 1.217]	[0.990 - 1.234]	[1.007 - 1.337]	[0.999 - 1.349]
Father vocational sec.	0.932	0.884	0.967	0.872
	[0.818 - 1.063]	[0.770 - 1.014]	[0.817 - 1.143]	[0.731 - 1.039]
Father tertiary	1.047	0.996	0.985	0.880
	[0.891 - 1.231]	[0.838 - 1.183]	[0.805 - 1.205]	[0.707 - 1.096]
Husband less than voc. sec.			0.957	0.999
			[0.829 - 1.104]	[0.842 - 1.186]
Husband vocational sec.			0.944	1.002
			[0.813 - 1.095]	[0.851 - 1.179]
Husband tertiary			1.029	1.050
			[0.872 - 1.215]	[0.868 - 1.271]
Husband public wage employed			1.815***	1.738***
			[1.567 - 2.102]	[1.461 - 2.067]
Husband private wage employed			1.284**	1.234*
			[1.096 - 1.503]	[1.026 - 1.485]
Husband self-employed			0.795**	0.673***
			[0.677 - 0.934]	[0.558 - 0.810]
Married	0.732***	0.305***		
	[0.657 - 0.816]	[0.271 - 0.342]		
Previously married	1.157	0.622***		
	[0.995 - 1.345]	[0.530 - 0.731]		
Observations	27,573	27,189	17,640	17,019

Notes: Robust in brackets. *** p<0.001, ** p<0.01, * p<0.05