

Work and Women's Marriage, Fertility and Empowerment: Evidence from Textile Mill Employment in India*

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Abstract

Women in developing countries are starting to join the workforce in greater numbers, and it has been argued that such exposure can lead to improved outcomes for them. This paper examines whether longer tenure in the formal sector affects female empowerment, marriage and fertility decisions. I exploit plausibly exogenous variation in duration worked from a natural experiment created by a large Indian textile firm's decision to replace fixed-term contracts with daily employment contracts. Using administrative data from this firm, I find that the more time women were exposed to a fixed-term contract, the longer they stayed in the formal labor market. Surveying 985 workers about 4.5 years after they first entered the textile industry, I find that the women who worked longer delayed marriage, without any detrimental effect on eventual spousal quality. A longer duration of employment also translates to reductions in desired fertility. Further, there are strong spillover effects within the family, as age of marriage increases for younger sisters and school dropout rates decrease for younger brothers. I find evidence that an increase in female empowerment and autonomy is a plausible channel for these effects. These findings provide new information on the impact of duration of employment outside the parental village for young women in rural areas.

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1 Introduction

In the developing world, labor force participation for women is low at 52 percent—about 26 percentage points lower than it is for men (Duflo 2012, World Development Report 2012). Industrialization and globalization are expanding economic opportunities for women, creating jobs in the manufacturing and service sectors that yield higher returns than the traditional agricultural sector. Access to such opportunities has encouraged women to invest in human capital and enter the formal labor market (Munshi and Rosenzweig 2006, Atkin 2009, Heath and Mubarak 2012, Jensen 2012). However, little is known about how women are affected by working in these newer sectors. In this paper, I explore the effects of working for longer periods in the manufacturing sector on women’s marriage and fertility outcomes in rural India.

Empirically, identifying the causal effect of time spent in the formal labor force presents several challenges. Most of the existing literature exploits variation in access to employment to study the impact of labor market opportunities for women (Atkin 2009, Heath and Mubarak 2012, Jensen 2012). While this sheds light on the extensive margin, women who work outside the household may differ along other characteristics such as how liberal their families are, or the outside options and opportunity costs available to them. These differences can have a direct effect on later-life outcomes.

This paper considers the intensive margin and isolates the effect of duration worked on outcomes for women who took up the same kind of employment. Specifically, my analysis exploits a natural experiment created by a large Indian textile firm’s decision to change fixed-term contracts to daily wage contracts. The firm’s decision led to variation in the duration of employment for different workers. Administrative data shows that unanticipated differences in duration of exposure to the fixed-term contract affected the length of employment (in months). I survey all cohorts of workers affected by this change in contract, tracking them 4.5 years (on average) after they first started working at the firm. Using survey data for 985 women, I find that being employed longer increases the age of marriage and lowers desired

fertility, without any observable costs on the marriage market and eventual spouse quality. There are also strong spillover effects within the workers' families such as an increase in the age of marriage for younger sisters and a decrease in school dropout rates for younger brothers. I find evidence in support of the hypothesis that an increase in empowerment and autonomy is a plausible channel for these effects.

Leaving the village before marriage is uniquely associated with the recent growth of employment in the manufacturing and service sectors. In traditionally conservative societies, participating in the formal labor market can lead to a particularly dramatic change in life exposure for women. It provides women with opportunities to gain different skills, earn independent incomes and develop new social networks. The effect of this exposure on their ultimate economic and social outcomes, however, is ambiguous. On the one hand, it may increase women's bargaining power, thereby leading to better later-life outcomes. On the other hand, women who leave their native villages for employment may be looked upon unfavorably which could adversely impact their self-esteem and marriage outcomes.

The textile industry in the Indian state of Tamil Nadu offers a unique setting to study this question. In this industry, it is common for women to migrate from their parental villages to the location of the firm. They live and work at the factories with other women. They are often employed using fixed-term contracts with a large deferred payment that is given only upon completion of the duration specified by the contract. These contracts provide a strong incentive for tenure.

The firm I study replaced fixed-term contracts of three- and one-year lengths with contracts that paid workers a daily wage with no deferred payment. The change in the type of contracts was unanticipated by the workers. The new contract removed the tenure incentives previously in place for the workers. The workers from different cohorts were exposed to the fixed-term contract for different lengths of time before the change. I restrict the analysis to the sample of workers that joined before the change, and thus all selected into the fixed-term contract. These workers only differ from each other in the number of months

worked for the firm before the change in contract occurred. Specifically, I use the duration of exposure to the three-year contract as an instrumental variable (IV) for the duration the woman works outside the village. Further, to control for any time trends associated with the cohort of joining the firm, I use the workers with one-year contracts as a control group. The difference-in-differences estimates for the first-stage highlight that for every month of exposure to the three-year contract, duration worked increases by 0.5 months.

Most women take up this type of employment in the window between their schooling and marriage. Therefore, work tenure may immediately affect marriage outcomes. Women who work for longer periods may marry later than those who work for a shorter duration. I find strong evidence that employment outside the village increases the age of marriage and decreases the probability that a woman is married by age 21. The IV results suggest that the elasticity of age of marriage with respect to duration worked is 1.1. While this is only slightly more than a one-for-one increase, it does not appear that completing the employment spell and getting married occur simultaneously. Instead, I find that women who work for longer periods receive their first marriage proposal at a later age. They also have a longer gap between receiving their first marriage proposal and getting married. This suggests that delays in marriage may occur partly because women who work longer choose to defer marriage even after receiving a proposal.

Early marriage for women is associated with a number of poor outcomes such as lower economic and social status (Dahl 2010). Work from Bangladesh suggests that delaying marriage increases use of preventive healthcare by women (Ambrus and Field 2008). In the setting in this paper, working may improve a woman's marriage outcome by changing her outside option and the pool of eligible spouses. However, there may also be potential costs to working and delaying marriage. If living and working outside the village is not desirable behavior in the marriage market, these women might find it harder to find a spouse and may end up not getting married at all. They could also be matched to spouses of lower quality, and forced to pay a larger dowry to compensate for having worked and being older at the time of marriage. However, the analysis shows that there are no significant effects on

the number of marriage proposals received, the likelihood of being married, the dowry the woman's family has to give the spouse during the wedding and the eventual quality of her spouse.

Age of marriage has also been shown to significantly predict the age of first pregnancy and total fertility rate (Jensen and Thornton 2003). I find evidence that working for a longer period increases the age at which a woman has her first child and decreases the number of children the woman has had at the time of the survey. However these results should be interpreted cautiously since I only observe short- to medium-term outcomes for these women, and most women in the sample have not yet realized their life-time fertility. To address this concern, I examine the effect on desired life-time fertility, and find that for the average woman in the sample who works 18 months, desired fertility decreases by 14 percent.

Finally, I look at the impact of a woman being employed outside the household on her family members, and particularly on younger siblings. Younger siblings could be directly affected if they also enter the labor market following the sister, or indirectly impacted through spillovers from the older sister. I find that an older sister being employed does not increase the likelihood of her younger sister working, but does increase the age of marriage for her younger sister. Further, for younger brothers, an older sister working reduces school dropout rates and the likelihood that they have entered the labor market. These results suggest that there may be positive externalities for younger siblings when women work outside the home and that these externalities may apply even when the siblings themselves do not work.

I consider two possible channels through which the above mentioned effects could be taking place. First, working can increase female empowerment through the exposure to life outside the village, formation of new networks at the workplace, change in the worker's outside option and opportunity to earn an independent income. This, in turn, can change bargaining power and translate into changes in the real outcomes we observe such as marriage and fertility. Additionally, women who work longer may have contributed more to their households' overall wealth which may result in delaying marriage and lower fertility for girls, and lower

school dropout rates for boys.

To shed light on these channels, I measure the impact of duration of work on intermediate outcomes that measure empowerment and household wealth. Supporting the empowerment channel, I find that women who have worked longer score higher on measures of empowerment and autonomy. Particularly notable is the impact of working on autonomy in marriage decisions. In India, where a large number of women have arranged marriages and meet their spouse for the first time on their wedding day, this represents significant progress with respect to female empowerment (Banerji, Martin and Desai 2008). In contrast, I do not find conclusive evidence that an increase in household wealth is the primary channel for these effects.

The results in this paper are relevant to the literature on the impact of labor force participation on women in developing countries. Access to employment in the service sector for women in rural areas has been found to reduce early marriage and desired fertility by encouraging them to enter the labor force or obtain more education and training (Jensen 2012). The growth of manufacturing jobs has been associated with improvements in girl's school enrollment and better health for female children driven by increased returns to investment in them (Heath and Mubarak 2012, Atkin 2009). But these studies do not examine the impact of exposure to such work on the employed women themselves. Evidence from the textile industry in Bangladesh associates working with higher female status and better quality of life measures (Kabeer 2002, Hewett and Amin 2000). However, NGOs and human rights groups frequently highlight the negative effects of factory work on women such as long hours, exploitative and unsafe working conditions and social taboos (ActionAid, New York Times). This paper provides empirical evidence on the effects of duration of work on later-life outcomes for the employed women.

This paper also contributes to the literature on policies that affect marriage and fertility. Compulsory schooling laws and lowering the costs of schooling can delay marriage by keeping girls in school for longer (Kirdar, Tayful and Koc 2011, Duflo, Dupas and Kremer 2011). However, with policies that affect marriage through schooling, women continue to

reside at home without living independently outside the village, and this may not have the same impact on female autonomy. Goldin and Katz (2000, 2002) and Bailey (2006) find that the oral contraceptive pill led to delayed marriage and pregnancy and lower desired fertility in the United States by decreasing the cost of delaying marriage and allowing women to invest in careers. The setting in the paper provides evidence that opportunities that bring women in traditionally conservative societies outside their villages for employment could act as important tools for increasing female empowerment, and impact real outcomes for both the woman and her younger siblings.

Social norms and cultural beliefs related to gender roles and attitudes may be hard to change. However, living and working outside the village is not the only way through which gender attitudes and outcomes can change. Existing literature has studied the impact of mobility and exposure to life outside their community for women through other channels. For example, Jensen and Oster (2009) find that the introduction of cable television has significant impact on gender attitudes in rural India, which also translates into increased schooling for women and a decrease in fertility. They argue that this is because television portrays life in urban settings and dramatically changes the information available to these women. Beaman et al. (2012) use a natural experiment that reserves leadership positions for women in village councils. They show that female leadership influences adolescent girls' career aspirations and educational attainment. This paper contributes to this literature by examining the link between young women working outside the village and their empowerment. The results show that longer duration of employment can increase female empowerment.

The rest of this paper is organized as follows. Section 2 describes employment patterns for women in the textile industry. Section 3 discusses the change in wage policy that provides the setting for a natural experiment in duration of work, explains the identification strategy and describes the data. Section 4 presents the main empirical results on marriage, fertility and spillovers to siblings. Section 5 explores possible mechanisms for the findings. Section 6 concludes by discussing the implications of the findings for policy and highlights avenues for further research.

2 Background on Working in Textile Industry

2.1 Textile Industry in Tamil Nadu

The opportunities for young women to work in the formal labor market are particularly salient for South Asia. The recent decades have seen a surge in labor market opportunities in this region, where industries have been rapidly growing, hence, creating opportunities for women that did not previously exist due to social, cultural, and economic reasons. The textile industry is one of the largest manufacturing sectors in South Asia that employs women. In India, textiles are a major contributor to industrial production and exports, accounting for nearly 14 percent of the region's total industrial production and 17 percent of its total export earnings (Gera 2012). Over the last two decades, the proportion of young women employed in the textile industry has increased since they are easy to manage, can be paid lower wages and are less likely to unionize than men (Standing 1999, Fontana 2003). The South Indian state of Tamil Nadu employs over 200,000 women in low-skill manufacturing jobs in this industry.

Textile firms in Tamil Nadu often hire young unmarried women under employment contracts that provide strong incentives for work tenure. Under these contracts, the firms hire women for three-year periods during which the women live and work at the textile factory. These factories provide dormitories, food and other facilities for the workers. During the contract period, the firms defer approximately one third of the workers' monthly wages. At the end of the contract period, the firm gives the workers the accrued wages as a lump sum of money. If the worker leaves before the end of the contract, she forfeits the entire lump sum of money. The lump sum thus provides a strong incentive to stay at the factory for the complete duration of the contract.

The women hired under such wage contracts are typically unmarried, since married women are less likely to move from their spouses' household to live in factory dormitories. They are around the ages of 17 or 18 years, have discontinued their schooling and come from low-income families in rural areas where the monthly household income is less than \$100 (Neetha

2001). Despite the lock-in period of three years, families may find the contracts attractive in an environment where they face short-term credit constraints and uncertainty surrounding the timing of marriage. With limited opportunities for young women to work, employment in textile firms offers families an additional source of monthly income. It provides young women with a relatively secure living environment away from home. Further, the deferred lump sum payment may allow families to save large sums of money. In a society where a woman's wedding is a large expense on her family, this saving can be used to buy jewelry and pay for other wedding-related expenses. In fact, when they were first introduced, these employment contracts were often advertised as a way for women to save for their weddings.

2.2 Young Women Working Outside the Village

Many women in rural India seldom leave their village before marriage; for example, in India, while 75 percent of women aged 22 and older reside outside their place of birth, 87 percent of them do because of marriage migration (Fulford 2013). Moreover, in keeping with tradition, women in these regions marry very young, at about 20 years old (Das and Dey, 1998). If women work before marriage, they are typically engaged in agricultural work. Therefore, typically many women move directly from their parent's homes to their spouse's, having never lived independently and with no exposure to life outside their community.

Leaving the village for employment is a fairly new phenomenon that has occurred as a product of industrialization and globalization. Living and working outside the village for the first time can have a very significant impact on young women. First, these women are exposed to life outside their communities. They interact with other workers and management who may come from different places, and may learn more about life in different communities. Second, they live away from their families and may have the opportunity to negotiate independent decisions. Third, they live in a close setting with other young women in their age group and form new friendships and networks with these women which they may continue to maintain even after they stop working. Finally, the work experience may increase their future employability, changing their outside option. These effects could increase empowerment, autonomy and bargaining power for women.

Historically, factory employment where women live and work in the place of employment is not uncommon. In fact, it has been associated with gains to female autonomy and empowerment. The setting is similar to the employment of female workers in textile mills in Lowell in nineteenth century United States and women in Japan and China in the early twentieth century (Dublin 1979, Dublin 1981, Eisler 1977, Honig 1996). The “Lowell Mill Girls” were the first generation of female workers during the Industrial Revolution in the United States. These women worked at the mills and attained economic independence for the first time. Eventually, when factory work became oppressive, these women protested and formed the first union of working women in the United States. Thus, despite the criticism of factory work by NGOs and human rights groups for exposing women to potentially exploitative and unsafe conditions, female empowerment from such opportunities may still lead to some positive outcomes.

3 Methodology

3.1 Natural Experiment: Change in Wage Policy

The firm I study operates several textile units in different parts of Tamil Nadu. I focus on the changes implemented at two particular units. At these units, the firm offered two types of contracts as of 2005. It offered a three-year contract to workers who entered the firm with no previous experience and one-year contract to workers who enter the firm with some previous experience. Under both contracts, the firm deferred approximately one third of the wage payment until the end of the fixed term. In 2010, following a change in its ownership structure, the firm terminated both contracts and switched to paying workers regular wages based on a daily wage and the number of days worked per month.¹ The main change in the wage structure involved workers receiving their entire monthly wages (no wages were deferred). The new contract removed incentives for workers to stay with the firm for longer

¹Detailed interviews with the management and owners suggest that the change was unrelated to the firm or unit profitability. They suggest that the workers could not anticipate the contract change. This is also confirmed through several focus groups with the workers who were at the firm during the change.

periods of time. The change came into effect at once and the daily wage went up sufficiently to compensate for the amount deferred under the original contract. Moreover, workers were also given a settlement amount proportionate to the duration they had already worked under the fixed-term contract up to that point to compensate them for the change in the system. There were no other major changes to the work environment at this time. I use the change in wage contract by the firm as a natural experiment that affected the duration worked under the fixed-term contract.

Under the fixed-term contracts, a portion of the wage was deferred until the end of the term specified by the contract at which point it was given as a lump sum. If the worker failed to complete the contract period, she forfeited the deferred amount. This feature of the contract provided a strong incentive for the workers to complete the duration specified by the contract. The longer the time already spent at the firm, the higher the cost of quitting without completing the contract period. Once the deferred payments feature of the contract was removed, the workers did not face any cost to quitting since they received their full wages each month without any deferred amount. Thus, under the fixed-term contract, we expect to see weakly longer tenure at the firm relative to the daily wage contract. Moreover, depending on when the worker joined the firm, she would have been exposed to the fixed-term contract for a different period of time. We thus expect that women who have been exposed to the fixed-term contract for a longer period also work for the firm for a correspondingly longer period of time.

Figure 1 uses administrative data to plot the Kaplan-Meier survival estimates for three-year contract workers from different cohorts before and after the policy change. Cohorts are defined based on when the worker joined the firm. The 2006 cohort was fully exposed to the original fixed-term contract. The survival estimates for this cohort show a gradual decline initially followed by a flat region until the end of the contract period after which there is a steep drop. On the other hand, for the cohort that joined after the change in wage policy such that they were never exposed to the fixed-term contract, the plot of the survival estimates shows a steady and gradual decline with overall lower duration of work. For the

cohorts in between (2007, 2008, 2009) that were exposed to the fixed-term contract for different durations, we see a gradual change in shape of the survival estimates from that of the 2006 cohort to that of the cohort after the policy change. This shows that average duration of work increased with exposure to the fixed-term contract where exposure is defined as the number of months before the change in wage contracts the worker joined the firm. Exposure to the fixed-term contract is a good predictor of duration worked at the firm and offers a valid instrumental variable.

3.2 Identification Strategy

The purpose of this study is to identify the causal impact of duration worked on later-life outcomes. The simple OLS estimation is given by:

$$y_{ic} = \beta_0 + \beta_1 W_{ic} + \beta_2 3^{yr} C_{ic} + \beta_3 X_{ic} + \gamma_c + \epsilon_{ic} \quad (1)$$

where y_{ic} is the outcome of interest for worker i from cohort of joining c , W_{ic} is the number of months worked at the factory, $3^{yr} C_{ic}$ is a dummy for whether the worker had a three-year contract at the start of the employment and X_{ic} is a set of individual characteristics such as age and education. γ_c is a set of cohort of joining fixed effects for each six-month cohort before the policy change. However, the coefficient β_1 may be biased and, hence, may not give the causal impact of duration of employment since duration worked may be endogenous to the outcomes of interest. For example, a worker from a more traditional family may tend to work less and get married early.

To identify the causal effect of duration of employment, I require quasi-exogenous variation in the duration worked. The sudden termination of the fixed-term contract by the firm provides an exogenous shock to highly incentivized work tenure for the workers. Workers who joined the firm prior to the change were exposed to the fixed-term contract for different periods of time based on when they joined the firm relative to the policy change. For example, a worker who joined the firm the month before the change spent only a month under the fixed-term contract compared to a worker who joined three years before the change and

had almost completed her three-year term as specified by the original contract.

I define the exposure to the fixed-term contract as the number of months before the change in wage contract a worker joined the firm. This allows for the possibility that some workers may have left the firm of their own accord before completing the term unrelated to the contract change since I only consider how many months before the change they joined. I use this exposure variable as a source of variation for duration worked and use an instrumental variable (IV) approach to measure the causal impact of working on life outcomes.

There are two main concerns with this identification strategy. First, very old and recent cohorts of workers may be different from each other. In particular, the workers who joined after the change in policy selected into a different contract and hence may be different on other dimensions. To account for this selection bias, I restrict the analysis to workers who were hired before the wage contract was changed. Within this sample, all the workers had originally selected into the same contract, and hence there is no selection bias due to contract choice. Further, I drop very old cohorts and restrict the analysis to consider only the workers falling in between three years before the contract change and those hired right before the change (2007 to 2010). Within this sample, I use all workers even if they were no longer working at the firm when the change came into effect. For example, in earlier cohorts there may be workers who dropped in the first few months despite the fixed-term contracts, and these workers may differ on other dimensions that affect the outcomes of interest. Not including these workers would bias the analysis by dropping out non-compliers from earlier cohorts and differentially changing the composition of the cohorts.

Second, the identification strategy relies on the fact that the policy change affects women to different extents depending on when they joined the firm. The duration of exposure to the fixed-term contract depends on which cohort the worker joined and is confounded by a possible time trend and other differences related to cohort of joining. To address this concern, I use all workers at the firm who were hired on a one-year contract between 2007 and 2010 as a control group. I also include cohort of joining fixed-effects. The most recent

cohort of one-year contract workers in my sample are actually affected by the change in policy since they were switched from a one-year contract to a daily wage contract. However, to be conservative in controlling for cohort of joining effects, I use these workers only as a control group to difference out cohort of joining effects.

Figure 2 shows the first stage by fitting a fractional polynomial from the data. It plots the number of months worked at the firm against the hiring date, i.e. the number of months before the change in wage contract the worker joined the firm. There is a strong effect of exposure to the fixed-term contract for workers with the 3-year contract, but none for workers on the one-year contract.

As a first stage in my analysis, I estimate the differences in difference of duration worked between three-year and one-year contract workers from different cohorts controlling for observable individual characteristics such as age and years of education.² I use the following specification for the first stage:

$$W_{ic} = \alpha_0 + \alpha_1 E_{ic} * 3^{yr} C_{ic} + \alpha_2 E_{ic} + \alpha_3 3^{yr} C_{ic} + \alpha_4 X_{ic} + \gamma_c + \epsilon_{ic} \quad (2)$$

where E_{ic} is the exposure to the fixed-term contract defined as the number of months before the change in wage policy the worker i from cohort c joined the firm. α_1 is the difference in differences estimate that measures the difference in duration worked between three- and one-year contract workers from different cohorts.

I then estimate the causal effect of working on marriage, empowerment and the other outcomes of interest using the interaction between E_{ic} and $3^{yr} C_{ic}$ as an instrumental variable for W_{ic} . The variable E_{ic} is unrelated to the outcomes since the change in wage policy by the firm was an exogenous shock and satisfies the exclusion restriction. The IV approach

²Figure A1 in the appendix which plots the distribution of age in the sample by year of joining shows that there is variation in age across cohorts.

involves estimating the following two-stage model:

$$y_{ic} = \beta_0 + \beta_1 W_{ic} + \beta_2 E_{ic} + \beta_3 3^{yr} C_{ic} + \beta_4 X_{ic} + \gamma_c + \epsilon_{ic} \quad (3)$$

$$W_{ic} = \beta'_0 + \beta'_1 E_{ic} * 3^{yr} C_{ic} + \beta'_2 E_{ic} + \beta'_3 3^{yr} C_{ic} + \beta'_4 X_{ic} + \gamma'_c + \mu_{ic} \quad (4)$$

where y_{ic} is the outcome of interest for worker i from cohort c . β_1 estimates the causal effect of working one additional month in the factory for women who selected into the three-year contract.

The reduced form gives the effect of exposure to fixed-term contracts as follows:

$$y_{ic} = \alpha_0 + \alpha_1 E_{ic} * 3^{yr} C_{ic} + \alpha_2 E_{ic} + \alpha_3 3^{yr} C_{ic} + \alpha_4 X_{ic} + \gamma_c + \epsilon_{ic} \quad (5)$$

The IV approach allows me to isolate the causal effect of working on life outcomes for all women who took up this employment.

3.3 Survey and Data

I use two sets of data for the analysis. First, I collected administrative data with employee records from the firm. These records provide a complete list of all female workers hired starting in 2005, basic demographic information, contact information provided at the start of the employment period and the dates of starting and completion employment at the firm. The records also note if the worker was under the three-year or the one-year contract.

The firm's data allowed me to select the sample for a socio-economic survey with a focus on measuring marriage and empowerment outcomes. For the survey, I selected all workers hired from 2007 until the implementation of the wage policy change. I also restricted my target sample to workers who worked for at least one month at the firm, leaving me with a sample of 1414 workers. Of these workers, 616 workers were working at the firm at the time of the wage policy change. The follow-up survey was complicated due to the fact that most workers had initially migrated from different districts within Tamil Nadu and many no

longer worked at the firm. I thus designed, piloted and implemented a multi-step tracking process to identify the location of the workers (or family members) for the survey, to ensure minimal attrition from the sample. The tracking process was able to successfully track and complete surveys for about 70 percent of the sample. I describe the different stages of the process used to track respondents in Section A1 in the appendix.

Table A2 in the appendix shows the tracking results by cohort of joining. In constructing the instrumental variable, I use the fact that workers from different joining cohorts were affected differentially by the policy change. I consider two measures of tracking success - whether the survey was successfully completed and whether the worker was tracked but refused the survey. I regress these variables on the dummies for the cohort in which the worker joined the firm and a dummy for whether the worker had a three-year contract. I find that the probability of completing the survey successfully is about 15 percent lower for the cohort that joined the firm 24 to 30 months before the change in wage policy by the firm. Hence, as a robustness check, in all my subsequent analysis I examine the effects for the restricted sample which omits this cohort to reduce any bias that may come from the lower tracking rate for workers in this cohort.

Since the tracking and survey process only captured about 70 percent of the original sample, differential attrition by exposure to the fixed-term contract may present a concern. I thus test whether exposure to the fixed-term contract has an effect on the probability that the survey was completed and the probability that the worker was tracked but refused to participate in the survey using the reduced form specification. The results presented in Table A3 in the appendix show that there are no significant differences in attrition by duration of exposure to the fixed-term contract. A second fact to note is that some questions and sections in the survey were added after the pilot round was completed. Moreover, in cases where the worker was unavailable and a family member was surveyed, I restricted the questions to those measuring real outcomes. Hence for such surveys I do not have all the outcomes. However, there are no differences by exposure to the fixed-term contract on whether the worker was in the pilot round or that a family member was surveyed.

Table 1 presents summary statistics for the surveyed sample. It also shows the balance checks for observable individual characteristics. Columns (1) and (2) show summary statistics for the three-year contract and one-year contract workers respectively. About two thirds of the sample was employed under the three-year contract (664 workers) and the remaining third has the one-year contract (321 workers). On average, the workers with three-year contracts are younger; the average current age of workers with the three-year contract is about 22 years while that of workers with the one-year contract is about 24 years. This is consistent with the fact that workers with the one-year contract were given shorter contracts because they had previous work experience and hence we expect them to be older. The workers with the three-year and one-year contracts both have about 9 years of education, come from families with approximately 5 members and on average have a similar number of siblings. The workers with a one-year contract have a slightly higher birth-order than those with a three-year contract. They are also a little more likely to be from a district around the factory and to come from a household with a widowed parent.

Regardless of contract type, most workers come from agricultural families. For three-year contract workers the father's primary occupation is about 47 percent likely to be agricultural labor while this is about 43 percent for the one-year contract workers. The mother's primary occupation is agricultural labor for about 53 percent of three-year contract workers and 47 percent of one-year contract workers. For 18 percent of three-year and 21 percent of one-year contract workers, the mother is a housewife. For a small fraction, about 18 percent of the three-year contract workers and about 22 percent of the one-year contract workers, a sibling has worked at a manufacturing job with the worker.

Columns (3) and (4) show balance checks for differences in worker characteristics by duration of exposure to the fixed-term contract. I use the reduced form specification without individual controls and report the coefficient on the interaction term in columns (3) and (4) for the full and restricted samples respectively. Workers who were exposed to the three-year contract for longer are younger and have fewer years of education, but this is not significant

at the 10 percent level. However, I include age and education controls in all the main specifications to account for any potential differences in outcomes by age or education. I find no significant differences by length of exposure to the fixed-term contract on any of the other observable characteristics.

4 Main Results

This section presents the difference in differences results for the first stage and the IV and reduced-form results for the impact of working on marriage, fertility and spillovers to siblings. I show the IV and reduced form results for the full sample from the survey. Results for the restricted sample omitting the cohort of workers who joined the firm 24 to 30 months before the change in wage contract are provided in Section A3 in the appendix.

4.1 Impact of Fixed-Term Contract on Duration Worked

Columns (1) and (2) of Table 2 show the simple difference for duration worked in the factory by exposure to the fixed-term contract separately for the three- and one-year contract workers respectively. The effect of exposure to the fixed-term contract is large and significant for the three-year contract workers but is smaller and not statistically significant for the one-year contract workers. Columns (3) to (6) of Table 2 show the difference in differences results for the impact of exposure to the fixed-term contracts on duration worked. For every month of exposure to the fixed-term contract, duration worked by three-year contract workers increases by 0.5 months. Columns (3) and (4) show the results for the full and restricted samples using administrative data from the firm on employment spell lengths.

One concern with the above estimates is that the duration worked at the firm might not be a good measure of the total duration of employment outside the home. Workers may work at other similar jobs in other firms once the wage policy change occurs. In columns (5) and (6), I use a variable from the occupation history collected during the survey that measures total duration worked across all jobs. This includes any time spent working in agricultural jobs. I find that the results for the impact of exposure to the fixed-term contract on duration

worked continue to hold suggesting that it is not just the duration worked at the firm that is affected, but total duration worked also increases with exposure to the fixed-term contract.³

In summary, the results from the first stage indicate that the change in wage contracts by the firm had a large impact on the number of months worked at the firm. Workers who were exposed to the fixed-term contract got a larger settlement amount and we might expect the income effect from the liquidity shock to reduce labor supply.⁴ However, the tenure incentives in the fixed-term wage contract had a stronger effect on duration worked and labor supply by the women. The first-stage results show that the interaction variable between exposure to the fixed-term contract and the dummy for the three-year contract is a good predictor of duration worked.

4.2 Impact of Working on Marriage and Fertility

Table 3 shows the IV and reduced form results for the effect of working on timing of marriage. For every month worked, probability of being married by the age of 21 reduces by about .01 (Column (1)). This translates to a decrease in the probability of being married before age 21 of more than 17 percent for the average worker in the sample with 18 months of work. It captures both whether the woman is married and the age at which she was married. I therefore also look at the intensive margin for the women who are already married. Here I find that for each additional month worked, the age of marriage increases by about 1.1 months, slightly more than a one-for-one increase (Column (2) of Table 3). This estimate is larger than other estimates found in the literature. A delay in timing of menarche has a smaller effect, with a one year delay leading to an increase in age of marriage by 0.74 years (Ambrus and Field 2008). A higher age of menarche has a mechanical effect on marriage since women are typically withheld from the marriage market before puberty. The duration of employment may have a larger impact on the age of marriage if women who work longer

³The total work variable is noisy since workers were sometimes unable to report exactly how long they worked at each of their other jobs. Therefore, in subsequent regressions for the IV approach, I use the variable measuring duration worked at the firm since this is measured accurately from administrative data.

⁴In results available on request, I find that a longer duration of exposure to the fixed-term contract and, hence, a larger settlement amount has no effect on duration worked after the change in wage contract.

also choose to defer marriage.

Figure 3 plots a distribution of the time between when a worker in the sample completes her employment spell at the factory and when she gets married. The plot suggests that there is no mechanical rule for this, i.e. it is not the case that women do not get married while at the factory, but then get married immediately after completing their employment and returning home. The results in columns (3) and (4) break down the delay into two components, the age the woman receives her first marriage proposal and the time between receiving this proposal and getting married to understand how the time to marriage is distributed. The results suggest that while some of the delay may be because women who work longer receive their first marriage proposal later, the time between receiving the first proposal and getting married also increases with working suggesting that these women may also be choosing to defer marriage or may be pickier because they have a better outside option.

While increasing the age of marriage for women is often considered an important policy goal in many developing countries, the overall effect on the marriage market may be negative if women who work longer and delay marriage are matched to a spouse of lower quality. The results in Table 4 show that in the equilibrium there are no negative effects of working on observable characteristics of marriage outcomes. In particular, there are no significant effects of working on the number of marriage proposals a woman receives and whether the woman is married. Further, there is also no significant effect on the value of gifts the bride's family gives the groom and his family at the time of marriage suggesting that women do not have to pay a larger dowry to compensate for working and getting married at an older age.

I next consider an index which includes variables that measure various dimensions of spousal quality such as the age gap between the worker and her spouse, whether the spouse lives in a different village or district, the relative economic status of the spouse, the relative education of the spouse and the reported income of the spouse.⁵ In column (4) I present the average effect size (AES) for the equilibrium quality of spouse. The method which follows O'Brien

⁵Section A2 in the appendix provides details on the components of this index.

(1984), Kling et al. (2004) and Clingingsmith et al. (2009) computes the average effect size across outcomes as the average of the individual effects standardized by the standard deviation of the effect for the comparison group.⁶ I find no significant effects of working on spouse quality in the equilibrium.⁷ I can reject a decline in spouse quality of greater than 0.02 standard deviations with 95 percent confidence.

The results in Table 4 suggests that on observable dimensions, women do not suffer any costs in the marriage market from being employed. It is important to note that these results are the equilibrium outcomes in the marriage market. For example, spouse quality may worsen because the woman is older when she gets married, but may improve because of her work experience. The results reported here reflects the net effect of working for a longer time on the marriage market.

In Table 5, I examine the effect of working on age of first pregnancy and number of children. I find that the probability that the woman had a child before the age of 23 decreases by 0.01 for every month worked. This is more than a 25 percent decrease in the probability for the average worker in the sample (column (1)). Examining the intensive margin for the women who had a child at the time of the survey, in column (2), I find that the age of the woman when her first child was born increases, though the sample size is small and the results are not significant at the 10 percent level.

In columns (3) and (4), I present the results for the number of children for women who are married and for all women in the sample, respectively. I find that working for a longer period of time is associated with having fewer children. However, these results should be interpreted with caution due to the small sample size. Over 40 percent of the women in the sample remain unmarried and do not have children at the time of the survey. Moreover, I only observe fertility at the time of survey rather than fertility over the woman's entire

⁶To test for the AES against the null hypothesis of no average effect, the individual effects are jointly estimating in a seemingly unrelated regression framework. The stacked regression gives the correct covariance matrix for a test of the AES.

⁷In the results presented in Table A4 in the appendix, I show that there are no significant effects on any of the individual variables that make up the spouse quality index.

lifetime and many of the women in the sample have not realized their lifetime fertility.

I therefore examine the effect of time spent working on desired fertility, i.e. the number of children the woman reports she would like to have. For the average worker in the sample, the results indicated a reduction in desired fertility by 0.27, a 14 percent decrease from the mean desired fertility of approximately 2 children in the sample (column (5)). This is fairly large and is comparable to the declines in desired fertility observed by Jensen (2012) in an RCT that offered women in rural India recruitment services for jobs in the BPO sector.⁸

4.3 Spillovers to Siblings

In this section, I examine whether a woman's employment status is associated with spillovers to her siblings.⁹ I consider the impact of women working on their siblings' marriage, education and work outcomes. One could expect such effects on younger siblings because the woman may directly affect her siblings (due to changed attitudes), or because her work spell has changed the family's financial situation. In contrast, there should not be such effects for older siblings since most of these choices have been realized already. To examine this, I interact the duration worked with whether or not the sibling is an elder or younger brother or sister. I instrument this with the interactions of the instrumental variable with whether the sibling is an elder or younger brother or sister in this regression.

Table 6 provides the IV and reduced form results for the full sample. The age of marriage for younger sisters increases, and this increase is similar in magnitude to the increase in age of marriage for the worker. However, there is no effect on whether the younger sisters are currently studying or have ever worked which suggests that these increases are due to spillovers from the worker and not from the sister working herself. More empowered older sisters may expose their younger siblings to the new values they learn from working outside the village and bargain for better outcomes for their younger siblings. Alternatively, we

⁸Jensen (2012) finds that desired fertility decreases by 0.35 from the control group mean of 3 children, almost a 12 percent decline.

⁹The pilot round of the survey did not include a roster of siblings and hence we do not have outcomes for siblings for surveys during the pilot stage.

may see this type of effect on age of marriage because in these societies female children are married by birth order and delaying the marriage of an older sister means her younger sisters will also get married later (Vogl 2013).

For younger brothers, I find an increase in the probability that they are currently studying and a decrease in the probability of having ever worked. Longer duration of employment for a woman may increase household wealth, which in turn may result in increased education for siblings. If older girls' work is a substitute for younger boys' work, younger brothers may delay entering the labor market when their sisters work longer. Moreover, if sisters are getting married at a later age, this defers the family's wedding-related expenses. The deferred expenses may increase resources and allow younger boys to study longer and not enter the labor market early.

5 Mechanisms

The results in Section 4 show that working increases the age of marriage and lowers desired fertility without any observable costs in the marriage market. Moreover, when women work for a longer time period, there are spillovers to her younger siblings; younger sisters get married later and younger brothers delay entry into the labor market and remain in school. These changes could occur due to an increase in empowerment and autonomy for women or due to an increase in overall household wealth. In this section, I examine the effect of working on intermediate outcomes such as empowerment, autonomy and household wealth. I provide the IV and reduced form effects for the full sample. Again, the effects for the restricted sample are provided in Section A3 in the appendix.

5.1 Empowerment and Autonomy

In Table 7, I present the average effect sizes for different measures of empowerment and autonomy for the full and restricted sample.¹⁰ Again, as with the spouse quality index

¹⁰The pilot round of the survey did not include some of these questions. Moreover, in cases where we conducted a family survey we did not ask questions on attitudes and limited the questions to those on real outcomes. We do not have all the outcomes for empowerment and autonomy for those surveys

in Table 4, I follow O'Brien (1984), Kling et al. (2004) and Clingingsmith et al. (2009) and present average effect sizes. Column (1) shows that duration of employment increases women's empowerment score which is based on responses to a series of questions that the women answered on topics such as attitudes women's education, whether women should work and earn an income and women's mobility.¹¹ For the average worker in the sample who works 18 months, empowerment increases by 0.14 standard deviations.¹² This may seem small in magnitude, but it is worth keeping in mind that social and cultural gender norms are hard to change. The effects are comparable in magnitude to the effects on gender attitudes found in other work. For example, Jensen and Oster (2009) find that adding cable television is associated with a 0.19 standard deviation improvement in women' autonomy and decision-making, a 0.19 standard deviation decrease in the number of situations in which beating is considered acceptable and a 0.12 standard deviation decrease in the likelihood of wanting the next child to be a boy. In results available on request, I find that these results hold even when I restrict the analysis to the sample of unmarried women.

Column (2) shows that women who have worked longer have a higher internal locus of control, with degree of internal locus of control increasing by 0.01 standard deviations for every month worked, or 0.18 standard deviations for the average worker in the sample. The locus of control measure is constructed using responses to a series of statements about the degree to which workers' agree or disagree on whether they can control their life events with their actions (high internal locus of control) or whether life events depend on outside factors (low internal locus of control) (Rotter 1966).¹³ While the increase in the locus of control is modest, in interpreting the magnitude, it is important to note that these measures are considered to be determined during childhood and to stabilize during adolescence and hence may be hard to move (Weisz and Stipek 1982 provide a review).¹⁴ The results suggest that

¹¹The women were asked whether they agree or disagree with several statements on the role and status of women. Section A2 provides details on how this index was constructed.

¹²Although not reported in the paper, I also find that this increase is stronger if I restrict the statements to those about education and economic opportunities for women.

¹³I use five standard statements used in measures of locus of control. The responses to each statement were independently coded for whether agreeing indicates a higher or lower internal locus of control. Section A2 in the appendix provides further details on the questions comprising the index.

¹⁴The most comparable evidence to calibrate the magnitude is from Gottschalk (2003). He documents an increase between 0.05 and 0.1 on the probability of disagreeing with statements indicating an external locus

formal employment gives women more confidence and independence in their ability to influence outcomes.

I next consider an index of marriage decisions and attitudes that asks women the earliest age they would consider getting married and whether they would be allowed to refuse a marriage proposal. These are particularly relevant to understanding how working could affect marriage outcomes. The results in column (3) show that for every month worked, women are 0.03 standard deviations more empowered in the marriage decision.¹⁵ This is a fairly large effect translating to more than half a standard deviation for the average worker in the sample. In a setting like India, where arranged marriages are the most common types of marriage and many women report meeting their spouses on the day of their wedding, the ability to influence marriage outcomes such as refusing a marriage proposal is uncommon and represents a significant increase in autonomy for a woman.

Finally, I consider the impact on labor supply decisions. Less than 25 percent of the sample report currently working. This includes any type of employment including casual labor within the village. In results available on request, I find that this does not differ by duration exposed to the fixed-term contract. In column (4), I show the effect of working on a work autonomy index. The index includes two questions on the reason the woman stopped working and the person she thinks should control her earnings.¹⁶ I find that working increases the autonomy women have in labor supply decisions by .03 standard deviations for every month worked.

Overall, the results in Table 7 indicate that working increases empowerment and autonomy. Moreover, in analysis not included in the paper, I find a positive correlation between age of marriage and empowerment suggesting that increases in empowerment may be a plausible channel for the effects seen on marriage and fertility.

of control following an increase in work by 361 hours through a tax credit for welfare recipients.

¹⁵Section A2 in the appendix describes this index and Table A4 shows the effects on individual components of this index.

¹⁶Section A2 in the appendix provides more details on the index and Table A4 shows the effects on each component of the index.

5.2 Household Wealth

When women work, they contribute to overall household income and wealth. Total household income increases may be associated with effects on marriage, fertility and younger siblings even if the women are not more empowered. Table 8 shows the impact of working on different measures of wealth for the woman's current household. This is the household the woman currently lives in, which is typically the spouse's household for married women and the parental household for unmarried women.

The mean household income in the sample is approximately Rs. 4900 a month (less than \$100 a month). Column (1), shows there is only a small positive, but insignificant effect on current household income. I can reject an increase greater than 3 percent with 95 percent confidence. Column (2) and (3) show that there is a small negative (but insignificant) effect of time spent working on savings and loans. This includes savings in formal institutions as well as savings in the form of gold or jewelry and loans from both formal and informal institutions. I can reject an increase in savings of more than Rs. 1000 and a decrease in loans of more Rs. 4000 with 95 percent confidence. Finally, there is a small positive but insignificant effect on the number of household assets the woman reports having in her household and I can reject an effect size of greater than .09 assets with 95 percent confidence. Overall these results do not provide conclusive evidence that a household wealth effect is an important channel for the effects.

6 Conclusion

Policies that increase the age of marriage and decrease fertility are particularly interesting for researchers and policy-makers. This paper provides evidence that working outside the village leads to higher female empowerment and autonomy, which translate into changes in real outcomes such as delaying the age of marriage and lower desired fertility. For every month worked, the probability of being married by age of 21 decreases by 0.01 and age of marriage increases by 1.1 months. Moreover, the effects are not restricted to the women who work, but there are positive externalities to age of marriage and education of younger

siblings. These effects on younger siblings occur without the siblings themselves changing their work behavior.

The empirical analysis in this paper uses a change from fixed-term wage contracts to daily wage employment as a source of variation for duration worked at the firm. It is an open question why the change in contract had such a strong effect on duration worked. The women could have continued to work at the factory and even replicated the savings provided by the fixed-term contract themselves. This suggests that there may be other factors that affect length of employment for women. For example, it may be the case that the same barriers that lead to low female empowerment also prevent women from working in the absence of incentive-based contracts. Alternatively, existing literature highlights that when workers transition from traditional work to factory work they lack discipline and self-control, and may need contracts to overcome these behaviors (Clark 1994, Kaur, Kremer and Mullainathan 2010). The setting in this paper suggests that first-generation workers in the manufacturing sector may suffer from discipline problems in the duration of employment. Further research is required to understand whether the reason for this is an external barrier to working or internal problems with discipline. However, irrespective of which of these factors lead to a decreased length of employment, the findings in this paper suggest that providing employment opportunities may not be sufficient to encourage women to stay in the formal labor market. In addition to providing employment opportunities for women, policymakers intending to increase female labor supply should consider policies that also provide incentives to work.

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Figure 1: 3 Year Contract: Kaplan-Meier Survival Estimates

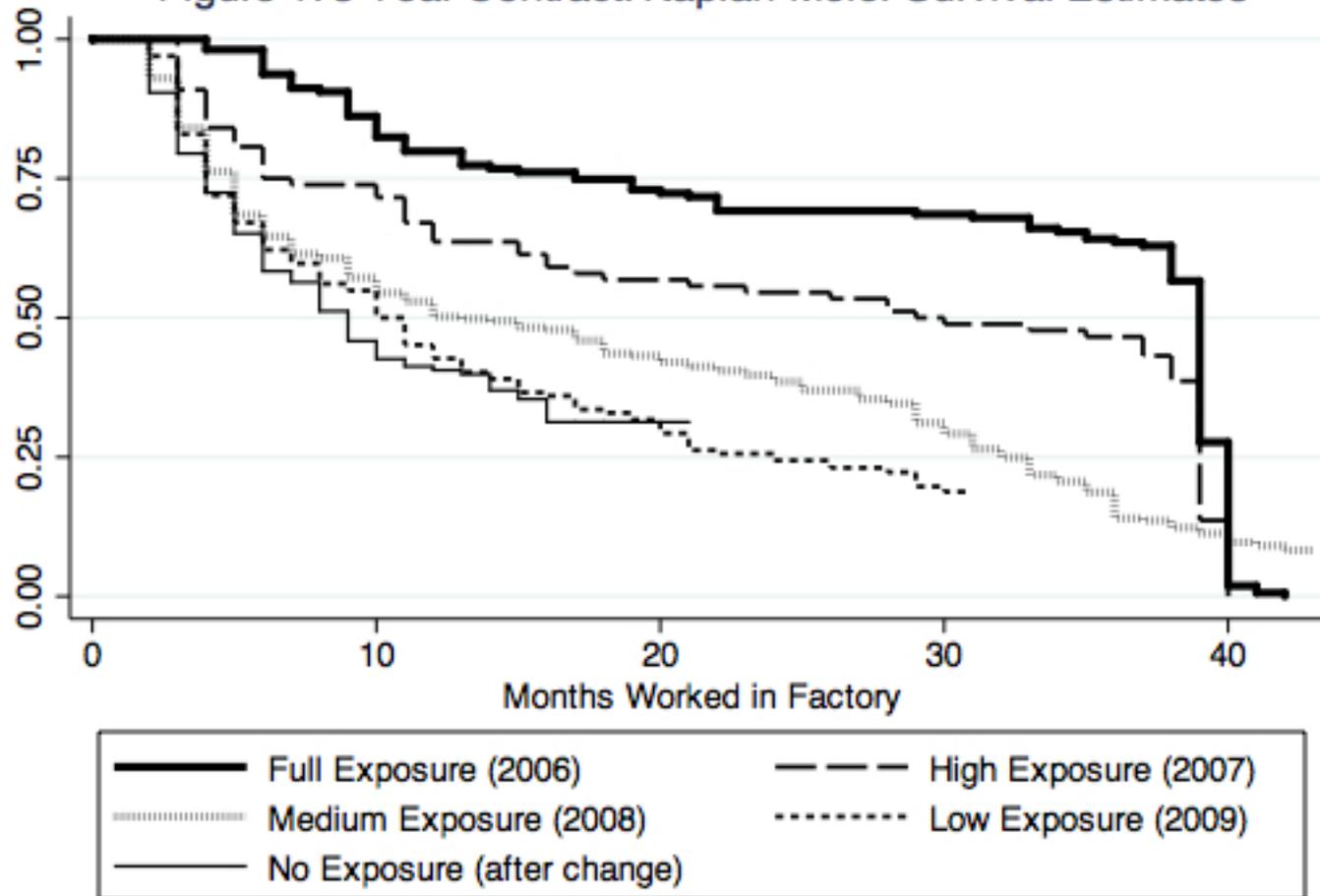


Figure 2: First Stage: Diff-in-Diff of Months Worked Outside

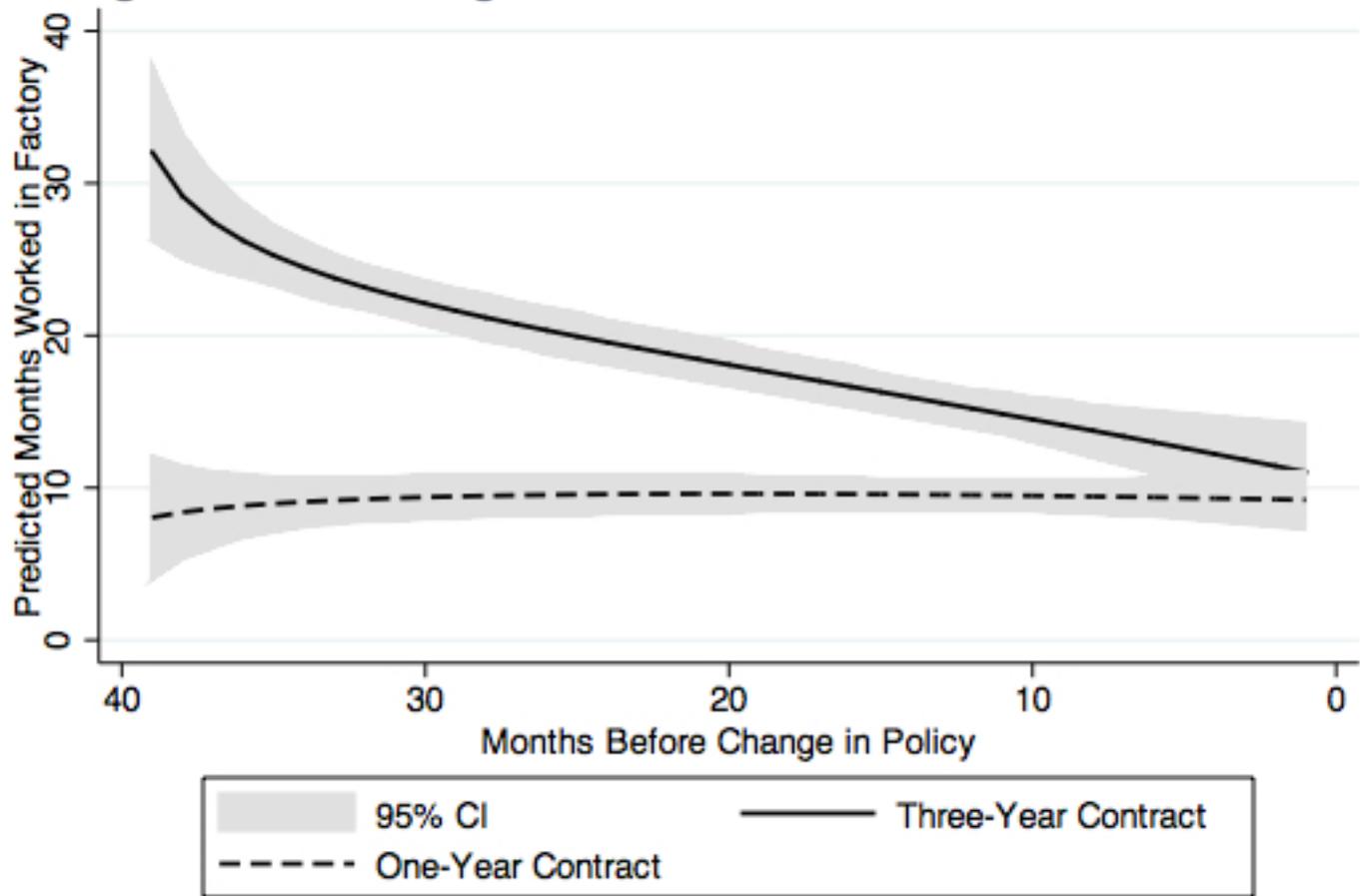


Figure 3: Time Between End of Factory Work and Marriage

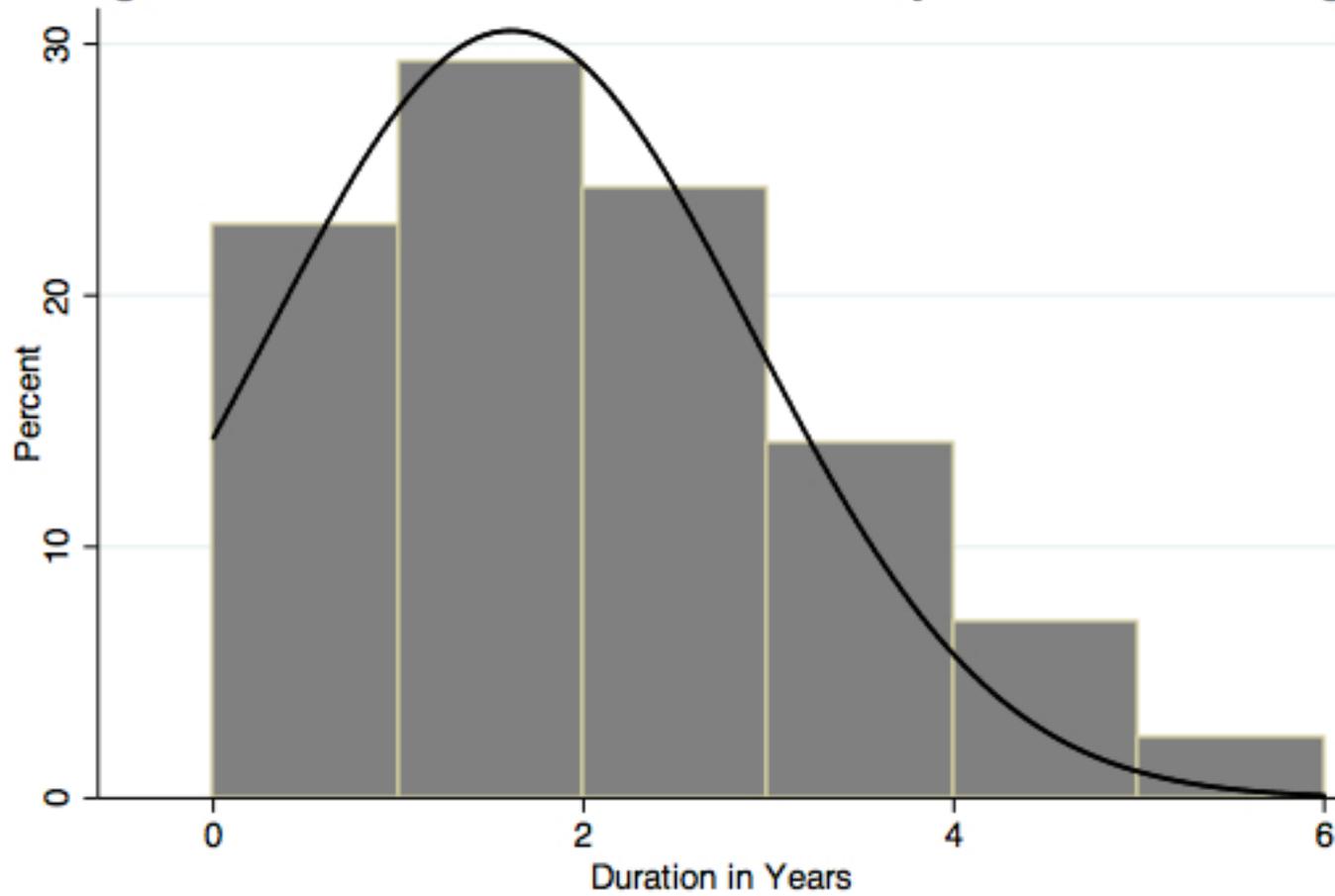


Table 1: Summary Statistics and Balance of Individual Characteristics

| | 3 Year Contract (1) | 1 Year Contract (2) | Full Sample (3) | Restricted Sample (4) |
|---|---------------------------|---------------------------|-----------------------|-----------------------------|
| Age | 22.06 (2.29) | 24.04 (2.78) | -0.03 (0.02) | -0.03 (0.02) |
| Years of Education | 8.93 (1.92) | 8.82 (1.82) | -0.02 (0.01) | -0.01 (0.01) |
| Natal Household Size | 5.09 (1.47) | 5.16 (1.60) | 0.00 (0.01) | 0.01 (0.01) |
| Number of Siblings | 2.44 (1.40) | 2.51 (1.43) | -0.00 (0.01) | -0.00 (0.01) |
| Birth Order | 1.16 (1.31) | 1.42 (1.41) | -0.01 (0.01) | -0.01 (0.01) |
| Natal Family Lives in District Around Factory | 0.30 (0.46) | 0.38 (0.49) | -0.00 (0.00) | -0.00 (0.00) |
| Widowed Parent | 0.16 (0.36) | 0.24 (0.43) | -0.00 (0.00) | -0.00 (0.00) |
| Father's Occupation: Agric Labor | 0.47 (0.50) | 0.43 (0.50) | -0.00 (0.00) | 0.00 (0.00) |
| Mother's Occupation: Agric Labor | 0.53 (0.50) | 0.47 (0.50) | -0.00 (0.00) | -0.00 (0.00) |
| Mother: Housewife | 0.18 (0.38) | 0.21 (0.21) | 0.00 (0.00) | 0.00* (0.00) |
| Sibling Worked in a Manufacturing Job with Worker | 0.18 (0.39) | 0.22 (0.41) | -0.00 (0.00) | 0.00 (0.00) |
| Observations | 664 | 321 | 985 | 911 |
| Individual Controls | - | - | No | No |
| Cohort of Joining Controls | - | - | Yes | Yes |

Notes:

(1) In columns (1) & (2) means for 3 year and 1 year contract workers are reported.

(2) In columns (3) & (4) the coefficient on the interaction between the duration of exposure and the dummy for the three-year contract is reported for full sample and for restricted sample excluding the cohort that joined 24 to 30 months before the wage policy change.

(3) In columns (1) & (2) standard deviations in parenthesis and in columns (3) & (4) robust standard errors in parentheses

(4) Asterisks denote significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 2: First Stage: Effect of Original Wage Contract on Duration Worked

| | Months worked in factory | | Months worked in factory | | Total Work | |
|--------------------------------|--------------------------------|-----------------------------|---------------------------------|---------------------------------|--------------------------------|--------------------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Months before X 3 year | | | 0.463*** (0.0660) [0.000] | 0.456*** (0.0685) [0.000] | 0.531*** (0.155) [0.001] | 0.556*** (0.161) [0.001] |
| Months before policy change | 0.874*** (0.207) [0.000] | 0.123 (0.138) [0.375] | 0.311** (0.135) [0.021] | 0.278* (0.155) [0.074] | -0.366 (0.278) [0.188] | -0.531* (0.317) [0.094] |
| Sample | 3 year | 1 year | Full | Restricted | Full | Restricted |
| Observations | 664 | 321 | 985 | 911 | 776 | 719 |

Notes:

- (1) Columns (1) and (2) shows the effect of exposure to the fixed-term contract on duration worked.
- (2) Columns (3) to (6) show the difference-in-difference results for the exposure to the fixed-term contract on duration worked.
- (3) In columns (1) to (4) the dependent variable is duration worked in the factory from administrative data.
- (4) In columns (5) and (6) the dependent variable is total work reported from survey data.
- (5) Results are presented for the full and restricted sample.
- (6) The restricted sample drops the cohort that had a poor tracking rate in the survey.
- (7) Individual controls for age and cohort of joining controls included in all specifications.
- (8) Results are consistent with dropping cohort of joining fixed effects.
- (9) The sample size is lower in columns (5) and (6) because in some cases the workers could not provide the duration at each job in their occupation history.
- (10) Robust standard errors in parentheses and p -values in brackets.
- (11) Asterisks denote significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3: Age of Marriage

| | Married before age 21 (1) | Age of Marriage (2) | Age received first proposal (3) | Time between first proposal & marriage (4) |
|-------------------------------|------------------------------------|---------------------------------|--|---|
| Panel A: IV Results | | | | |
| Months worked in factory | -0.00960* (0.00532) [0.071] | 0.0883** (0.0397) [0.026] | 0.0512* (0.0268) [0.056] | 0.0486 (0.0374) [0.193] |
| Panel B: Reduced Form Results | | | | |
| Months before X 3 year | -0.00506* (0.00285) [0.076] | 0.0355** (0.0155) [0.022] | 0.0275* (0.0145) [0.058] | 0.0201 (0.0150) [0.181] |
| Sample Mean | 0.318 | 20.61 | 19.91 | 1.059 |
| Observations | 948 | 595 | 833 | 505 |

Notes:

(1) Columns (1) to (4) of Panel A show the IV results for the impact of working outside the household on age of marriage.

(2) The change in wage policy by the firm is used as an instrumental variable for months worked in the factory.

(3) Columns (1) to (4) of Panel B show the reduced form results for the effect of duration under the old contract on age of marriage.

(4) Individual controls for age and education and cohort of joining fixed effects included

(5) Results are consistent with dropping cohort of joining fixed effects.

(6) About 40% of the sample is unmarried and hence the sample size in columns (1) and (4) is smaller.

(7) Robust standard errors in parentheses and p -values in brackets.

(8) Asterisks denote significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Costs of Delaying Marriage

| | No. of marriage proposals received (1) | Ever Married (2) | Log Gifts given during Wedding (3) | Spouse Quality Index (4) |
|-------------------------------------|---|----------------------------------|---------------------------------------|----------------------------------|
| Panel A: IV Results | | | | |
| Months worked in factory in factory | -0.0294 (0.0467) [0.529] | -0.00227 (0.00569) [0.690] | -0.00465 (0.0765) [0.952] | -.0033 (0.0096) [0.726] |
| Panel B: Reduced Form Results | | | | |
| Months before X 3 year | -0.0155 (0.0249) [0.535] | -0.00110 (0.00281) [0.695] | -0.00181 (0.0304) [0.953] | -0.00126 (0.00391) [0.748] |
| Sample Mean | 2.996 | 0.612 | 178240.4 | . |
| Observations | 847 | 981 | 585 | . |

Notes:

- (1) Columns (1) to (3) of Panel A show the IV results for the impact of working outside the household on the marriage market.
- (2) The change in wage policy by the firm is used as an instrumental variable for months worked in factory.
- (3) Columns (1) to (3) of Panel B show the reduced form results for the effect of duration under the old contract on the marriage market.
- (4) Column (4) shows the average effect size for the impact of working outside the household on spousal quality and the effects can be interpreted as standard deviation changes.
- (5) Please refer to the appendix section 2 for the composition of the index.
- (6) Individual controls for age and education and cohort of joining fixed effects included.
- (7) Results are consistent with dropping cohort of joining fixed effects.
- (8) About 40% of the sample is unmarried and hence the sample size in column (3) is smaller.
- (9) Robust standard errors in parentheses and p -values in brackets.
- (10) Asterisks denote significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Fertility

| | Child before age 23 (1) | Age when first child was born (2) | No. of kids currently (if married) (3) | No. of kids currently (full sample) (4) | Desired Fertility (5) |
|-------------------------------|------------------------------------|--|---|--|------------------------------------|
| Panel A: IV Results | | | | | |
| Months worked in factory | -0.0141** (0.00595) [0.018] | 0.0680 (0.0513) [0.186] | -0.0289* (0.0175) [0.098] | -0.0272*** (0.0100) [0.007] | -0.0152** (0.00757) [0.044] |
| Panel B: Reduced Form Results | | | | | |
| Months before X 3 year | -0.00706** (0.00304) [0.021] | 0.0220 (0.0170) [0.196] | -0.0109 (0.00692) [0.117] | -0.0137*** (0.00515) [0.008] | -0.00796** (0.00380) [0.037] |
| Sample Mean | 0.365 | 21.54 | 0.957 | 0.523 | 1.932 |
| Observations | 682 | 369 | 458 | 840 | 570 |

Notes:

- (1) Columns (1) to (5) of Panel A show the IV results for the impact of working outside the household on fertility.
- (2) The change in wage policy by the firm is used as an instrumental variable for months worked in the factory.
- (3) Columns (1) to (5) of Panel B show the reduced form results for the effect of duration under the old contract on fertility.
- (4) Individual controls for age and education and cohort of joining fixed effects included.
- (5) Results are consistent with dropping cohort of joining fixed effects.
- (6) About 40% of the sample is unmarried and in the pilot round of the survey we did not ask the number of children the woman had; therefore we do not have the full sample in columns (1) to (3).
- (7) Desired fertility was added in a later version of the survey and hence has a smaller number of observations.
- (8) Robust standard errors in parentheses and p -values in brackets.
- (9) Asterisks denote significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Spillovers to Siblings

| | Ever married (1) | Age of Marriage (2) | Currently Studying (3) | Ever Worked (4) |
|---|-----------------------------------|--------------------------------|-----------------------------------|-----------------------------------|
| Panel A: IV Results | | | | |
| Younger Sister X Months Worked | -0.00447 (0.00668) [0.504] | 0.0916* (0.0474) [0.053] | -0.00125 (0.00717) [0.862] | -0.00872 (0.00870) [0.316] |
| Younger Brother X Months Worked | 0.00429 (0.00295) [0.146] | 0.144 (0.114) [0.207] | 0.0101* (0.00571) [0.078] | -0.0105* (0.00626) [0.094] |
| Older Sister X Months Worked | 0.000931 (0.00353) [0.792] | 0.0199 (0.0487) [0.683] | 0.000763 (0.00227) [0.737] | -0.00837 (0.00817) [0.305] |
| Older Brother X Months Worked | 0.0000345 (0.00892) [0.997] | 0.0241 (0.0784) [0.758] | 0.00299 (0.00287) [0.297] | -0.00230 (0.00429) [0.592] |
| Panel B: Reduced Form Results | | | | |
| Younger Sister X Months Before X 3 year contract | -0.00178 (0.00262) [0.498] | 0.0428* (0.0222) [0.055] | -0.000570 (0.00280) [0.839] | -0.00331 (0.00328) [0.313] |
| Younger Brother X Months Before X 3 year contract | 0.00195 (0.00127) [0.125] | 0.0462 (0.0317) [0.145] | 0.00453* (0.00258) [0.079] | -0.00477* (0.00273) [0.081] |
| Older Sister X Months Before X 3 year contract | 0.000402 (0.00165) [0.807] | 0.00852 (0.0237) [0.719] | 0.000298 (0.00109) [0.786] | -0.00386 (0.00373) [0.302] |
| Older Brother X Months Before X 3 year contract | 0.0000415 (0.00404) [0.992] | 0.0112 (0.0407) [0.783] | 0.00135 (0.00128) [0.292] | -0.00108 (0.00190) [0.568] |
| Observations | 2467 | 1043 | 2467 | 2466 |

Notes:

(1) Columns (1) and (4) of Panel A and B show the IV and reduced form results for the impact of working on sibling's marriage, education and work.

(2) The change in wage policy by the firm is used as a instrument variable for months worked in factory

(3) Includes individual sibling-level controls for age and worker-level controls for age, education and birth-order, number of siblings and number of younger brothers and sisters.

(4) Standard errors clustered by worker in parentheses and p -values in brackets

(5) Asterisks denote significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Empowerment and Autonomy

| | Empowerment (1) | Internal Locus of Control (2) | Marriage Decisions & Attitudes (3) | Autonomy in Work Decisions (4) |
|-------------------------------|---------------------------------|--|---|---|
| Panel A: IV Results | | | | |
| Months worked in factory | 0.0079** (0.0038) [0.036] | 0.0109* (0.0058) [0.060] | 0.032*** (.0099) [0.001] | 0.0288*** (0.0112) [0.010] |
| Panel B: Reduced Form Results | | | | |
| Months before X 3 year | 0.00464 (0.00289) [0.108] | 0.00640* (0.00366) [0.080] | 0.0185*** (0.00579) [0.001] | 0.0144*** (0.00544) [0.008] |

Notes:

(1) Columns (1) to (4) show the average effect sizes for the impact of working outside the household on empowerment and autonomy and the effects can be interpreted as standard deviation changes.

(2) Please refer to the appendix section 2 for the composition of the index.

(3) The change in wage policy by the firm is used as an instrumental variable for months worked in factory.

(4) Panel A and B show the IV and reduced form results respectively.

(5) Individual controls for age and education and cohort of joining fixed effects included.

(6) Results are consistent with dropping cohort of joining fixed effects.

(7) Robust standard errors in parentheses and p -values in brackets.

(8) Asterisks denote significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Household Wealth

| | Log Household Income (1) | Savings (2) | Loans (3) | HouseHold Assets (4) |
|-------------------------------|---------------------------------|--------------------------------|-------------------------------|-------------------------------|
| Panel A: IV Results | | | | |
| Months worked in factory | 0.0138 (0.00919) [0.132] | -2988.1 (2018.7) [0.139] | -585.5 (1730.2) [0.735] | 0.0324 (0.0310) [0.297] |
| Panel B: Reduced Form Results | | | | |
| Months before X 3 year | 0.00681 (0.00445) [0.126] | -1438.6 (972.6) [0.140] | -318.6 (957.5) [0.739] | 0.0158 (0.0153) [0.301] |
| Sample Mean | 4880.0 | 57873.3 | 27873.3 | 5.683 |
| Observations | 955 | 702 | 605 | 981 |

Notes:

- (1) Columns (1) to (4) of Panel A show the IV results for the impact of working outside the household on household wealth.
- (2) The change in wage policy by the firm is used as an instrumental variable for months worked in factory.
- (3) Columns (1) to (4) of Panel B show the reduced form results for the effect of duration under the old contract on household wealth.
- (4) Individual controls for age and education and cohort of joining fixed effects included.
- (5) Results are consistent with dropping cohort of joining fixed effects.
- (6) Some respondents were not able to provide the value of savings and loans and hence the sample size in columns (2) and (3) is smaller.
- (7) Robust standard errors in parentheses and p -values in brackets.
- (8) Asterisks denote significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

7 Appendix

A1 Tracking Methodology

I implemented a multi-step tracking process using a team of field staff from the Center for MicroFinance to identify the location of the workers for the survey and ensure minimal attrition from the sample. We piloted the process in one district first to assess the tracking success before expanding to the rest of Tamil Nadu. 130 surveys were conducted in the pilot round. The process involved the following stages:

A1.1 Stage 1 - Firm Contact Data

We first used the contact data obtained from the firm to extract information on the district and *taluk* (the next sub-division below district) the worker was originally from, whenever this information was available. We then created smaller lists grouped by region and date of joining. Grouping them by region and date of joining meant we could then also rely on worker networks to improve our ability to find workers.

A1.2 Stage 2 - Tracking by phone

Following this, we contacted all workers from the list who had provided a phone number in their contact information. For the workers whom we were able to contact successfully, we verified and updated addresses with the most recent contact information. Further, if the contact information belonged to a family member, we collected the current contact information of the worker from this person.

A1.3 Stage 3 - In-person tracking

We then conducted in-person visits to verify and update contact information. The addresses were organized by area and each area was visited by a member of the tracking team. If the worker had migrated from the area for marriage, family members we asked for the workers current contact information. We also asked workers for contact information of other work-

ers who had worked at the same time as them for whom we did not have proper contact information. In cases in which the worker was not available for the survey, we requested an immediate family member to participate in the survey and answer the main sections of the survey.

We ran several iterations of this process in each district until we had attempted to track all the workers on the list. As the tracking process was completed in each district, a separate survey team of only female surveyors visited each worker (or family member) to conduct the follow-up survey. We used cell phones and tablet devices to do electronic surveys so that we could monitor and assign work to the tracking and survey teams in real time. For about 17 percent of the surveys, a family member responded to the questions. In such surveys, we dropped questions on attitudes and only asked questions that measured real outcomes.¹⁷) In Table A1, I provide the final results from the tracking process we used. I first show the tracking results for the full sample of all workers hired since 2007. I then show the tracking results for only those workers who were working at the firm when the change in policy was implemented. Our tracking process was able to successfully track and complete surveys for about 70 percent of the sample. About 10 percent of the sample refused to participate in the survey and about 20 percent could not be found through the tracking process.

Table A2 shows the OLS estimates regressing the tracking outcomes on the cohort of joining and type of contract. The results show that the probability of completing the survey successfully is about 15 percent lower for the cohort that joined the firm 24 to 30 months before the change in wage policy by the firm. All the analysis in the paper is done for the full sample and a restricted sample defined as the sample dropping this cohort. Table A3 shows that there is no difference in tracking by the instrumental variable. I present the results for the full sample as well as the restricted sample are presented.

¹⁷There are no significant differences by exposure to the fixed-term contract on whether the survey was given by a family member.

A2 Description of Indices

A2.1 Spouse Quality Index

This index consists of the following 5 variables that measure spouse quality.

- (1) Age gap between the worker and her spouse

Lower age gap indicates better quality.

- (2) Spouse's education relative to the worker's education

More education indicates better quality.

- (3) Spouse and his family's economic status relative to worker's

Better economic status indicates better quality.

- (4) Spouse's income

Higher income indicates better quality.

- (5) Whether the spouse is from the same district

Being from the same district indicates better quality since marrying further away is associated with worse outcomes such as domestic violence (Fulford 2013)

Panel A of Table A4 shows the IV results for the impact of working on the individual components of this index.

A2.2 Empowerment Index

This index consisted of 12 statements about gender roles that were posed to the respondents. For each statement, the respondent was expected to give one of 2 answers: Agree with statement, or Disagree with statement, with each coded separately for which answer indicated empowerment.

- (1) I feel safe to walk/move in my village/area alone during the day.

Agreement indicates empowerment.

(2) A girl should be allowed to study as much as she wants.

Agreement indicates empowerment.

(3) Women should not work outside home after they get married.

Disagreement indicates empowerment.

(4) It is unsafe for an adolescent girl to go outside of her home alone.

Disagreement indicates empowerment.

(5) A husband should earn more money than his wife.

Disagreement indicates empowerment.

(6) Girls should not be allowed to engage in income generating activities that require them to go outside the house.

Disagreement indicates empowerment.

(7) For the most part, it is better to be a man than to be a woman.

Disagreement indicates empowerment.

(8) Girls should get married as soon as they leave school.

Disagreement indicates empowerment.

(9) Girls should be allowed to wear whatever they want without being harassed.

Agreement indicates empowerment.

(10) A husband should be more educated than his wife.

Disagreement indicates empowerment.

(11) Parents should maintain stricter control over their daughters than their sons.

Disagreement indicates empowerment.

(12) I would prefer sons to daughters.

Disagreement indicates empowerment.

Figure A2 shows the distribution of the aggregated Z scores of the components of this index.

A2.3 Internal Locus of Control

This index consisted of 5 statements about the ability to control outcomes in ones life that were posed to the respondents. A high internal locus of control indicates belief that events in ones life can be affected by ones actions rather than outside factors. For each statement, the respondents were asked to choose one of the following: Strongly Agree, Agree, Neither agree or disagree, Disagree, Strongly Disagree. While coding however, Strongly Agree and Agree were mapped to the same Agree value, while Disagree and Strongly Disagree were both coded to a generic Disagree.

- (1) There is no real way that I can solve the problems I have.

Disagreement indicates a high internal locus of control.

- (2) Peoples misfortunes result from the mistakes they make.

Agreement indicates a high internal locus of control.

- (3) I have little control over the things that happen to me.

Disagreement indicates a high internal locus of control.

- (4) Many of the unhappy things in peoples lives are partly due to bad luck.

Disagreement indicates a high internal locus of control.

- (5) There is little I can do to change many of the important things in my life.

Disagreement indicates a high internal locus of control.

Figure A3 shows the distribution of the total number of responses to the above statements that indicate that the survey respondent has an internal locus of control.

A2.4 Marriage Decisions and Attitudes

This index posed 2 questions about marriage decisions to the respondents. Each answer was indicative of more or less empowerment for that respondent.

- (1) What is the earliest age you would have wanted to getting married? *Higher the age, higher the level of empowerment*
- (2) Do you think you will be allowed to refuse marriage proposal? *Answering Yes to this question is indicative of higher empowerment*

Panel B of Table A4 shows the IV results for the impact of working on the individual components of this index.

A2.5 Autonomy in Work Decisions

This index posed 2 questions about the independence of job-related decisions taken by the respondents. Each answer was indicative of more or less empowerment for that respondent.

- (1) Why did you stop working? (if respondent has stopped working) *Any answer that implies that the respondent stopped working because of the wishes of her parents, partners or other family members indicates lower empowerment*
- (2) Who do you think should have control over the money you earn? *Any answer that implies that someone other than the respondent should have control over the money earned by the respondent indicates lower empowerment.*

Panel C of]Table A4 shows the IV results for the impact of working on the individual components of this index.

A3 Robustness Check: Results for Restricted Sample

In Tables A5 to A9, I present the main results for the restricted sample which omits the cohort that joined between 24 to 30 months before the change in the wage contract. The tracking results show that this cohort had a lower tracking rate. I find that the results are consistent with omitting this group.

Figure A1: Distribution of Age by Year of Joining

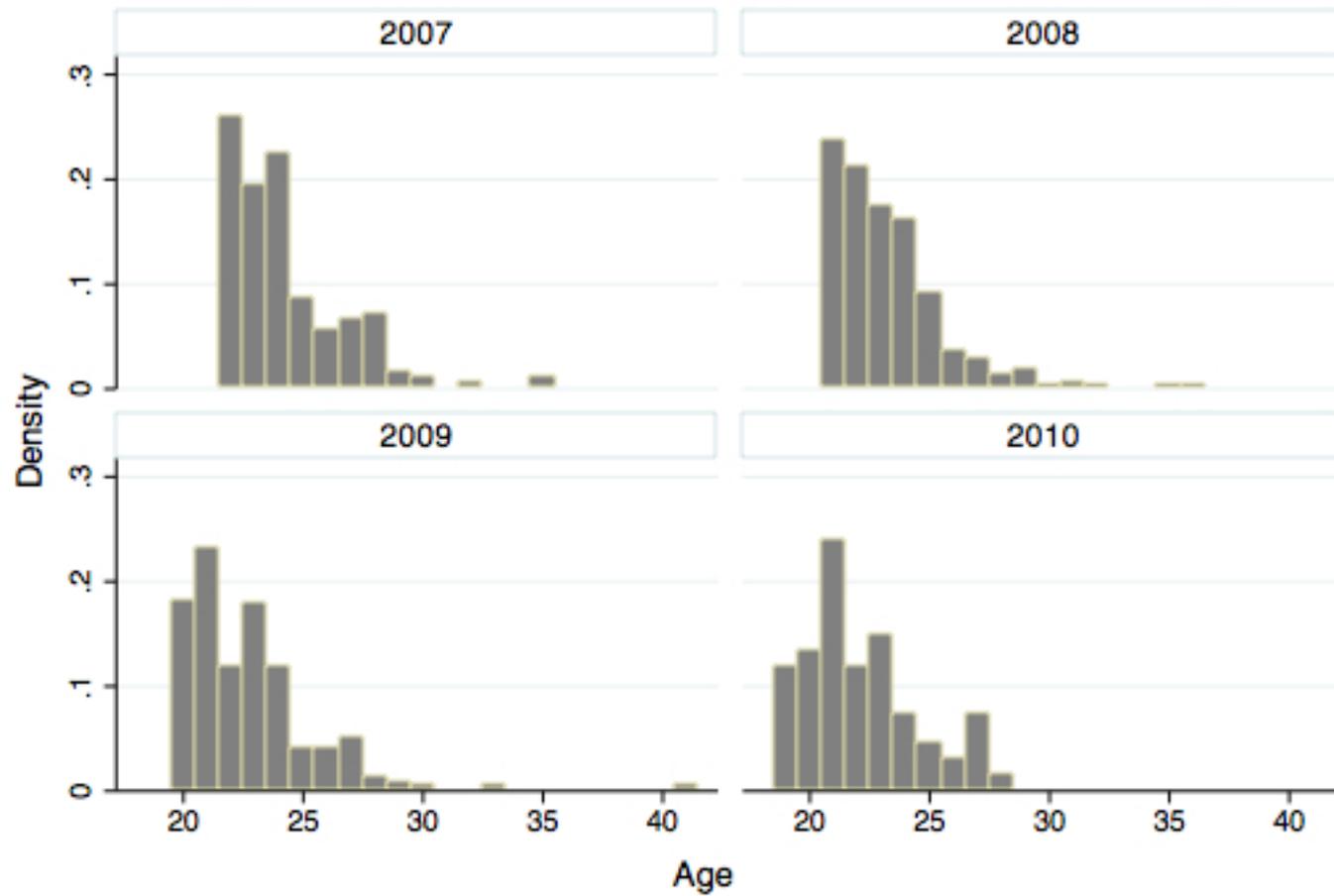


Figure A2: Components of Empowerment Index

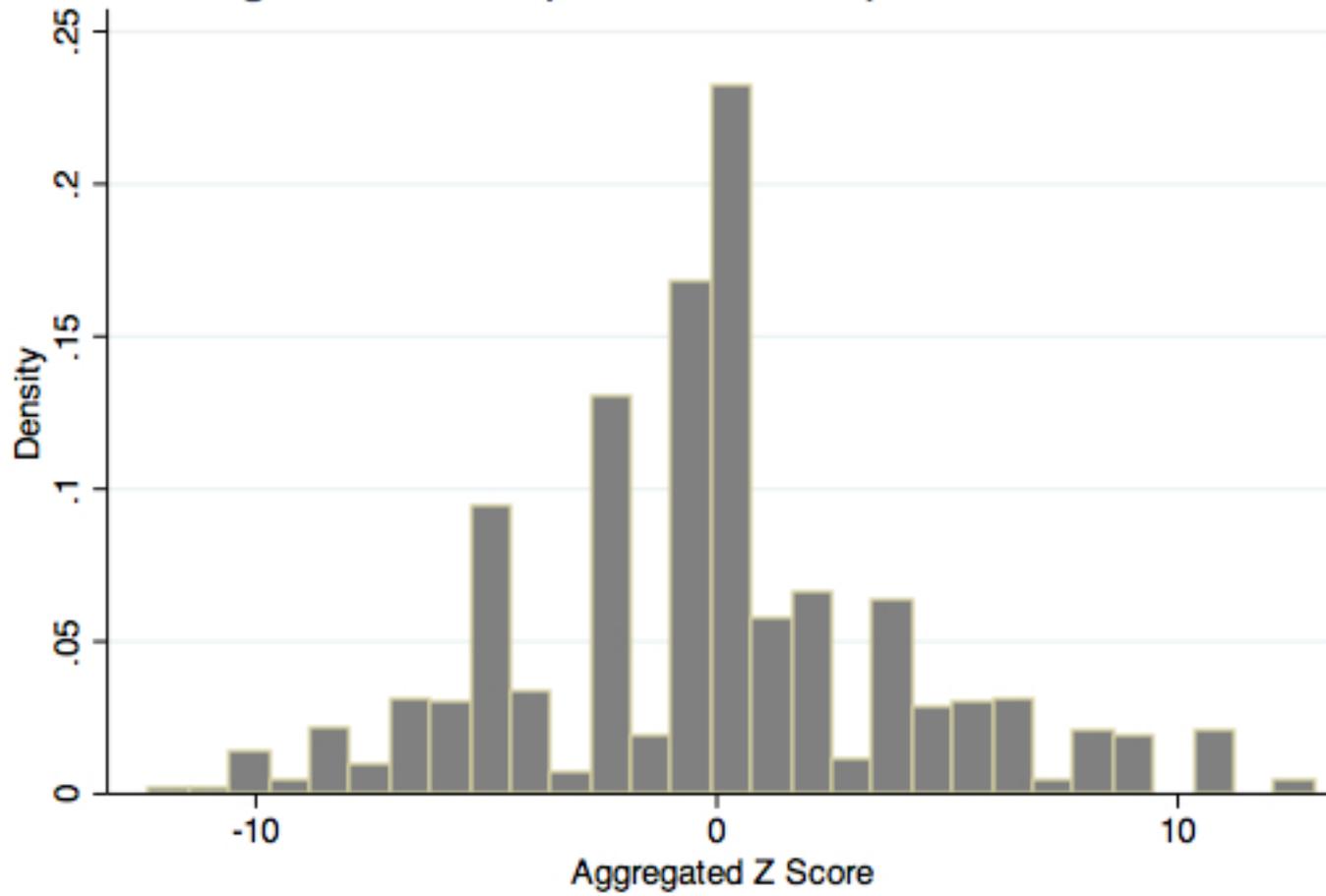


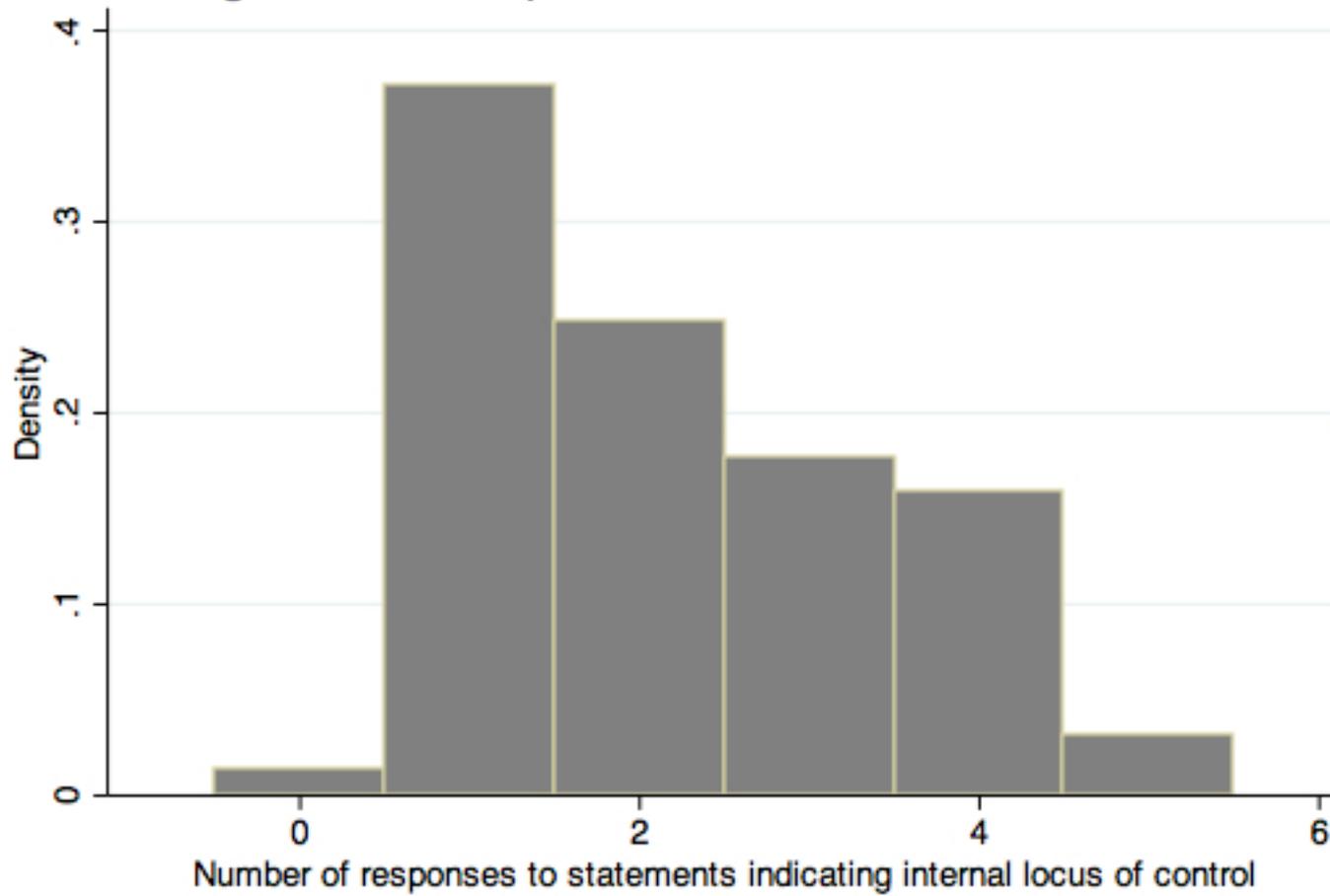
Figure A3: Components of Locus of Control Index

Table A1: Tracking Results

| Tracking Status | Number | Percent |
|--|--------|---------|
| Panel A: Full Sample (n=1414) | | |
| Survey Complete | 969 | 68.53 |
| Refused/Cannot survey | 122 | 8.63 |
| Not Found | 323 | 22.84 |
| Panel B: Sample working at time of policy change (n=616) | | |
| Survey Complete | 435 | 70.62 |
| Refused/Cannot survey | 62 | 10.06 |
| Not Found | 119 | 19.32 |

Table A2: Tracking by Cohort of Joining

| | Survey Completed (1) | Refused/ Cannot survey (2) |
|--------------------------------|----------------------------|----------------------------------|
| Join less than 6 months before | 0.00201 (0.0471) | 0.0332 (0.0294) |
| Join 6 to 12 months before | 0.0577 (0.0398) | 0.0258 (0.0241) |
| Join 12 to 18 months before | -0.00640 (0.0422) | 0.0379 (0.0250) |
| Join 18 to 24 months before | 0.0564 (0.0362) | 0.00758 (0.0203) |
| Join 24 to 30 months before | -0.152*** (0.0496) | 0.00816 (0.0256) |
| 3 year contract | 0.00987 (0.0302) | -0.0335* (0.0194) |
| Constant | 0.840*** (0.165) | 0.150* (0.0880) |
| Observations | 1409 | 1409 |

Notes:

(1) Columns (1) and (2) show the tracking by cohort of joining.

(2) Robust standard errors in parentheses

(3) Asterisks denote significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3: Balance Check for Tracking

| | Survey completed | | Refused/Cannot survey | |
|------------------------|----------------------|----------------------|-----------------------|-----------------------|
| | (1) | (2) | (3) | (4) |
| Months before X 3 year | 0.00105 (0.00249) | 0.00227 (0.00257) | 0.000267 (0.00145) | 0.000500 (0.00148) |
| Sample | Full | Reduced | Full | Reduced |
| Observations | 1414 | 1273 | 1414 | 1273 |

Notes:

- (1) Columns (1) and (4) show the effect of the change in wage policy on tracking results.
- (2) Cohort of joining controls included in all specifications.
- (3) Robust standard errors in parentheses
- (4) Asterisks denote significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4: Breakdown of Index

| Panel A: Spousal Quality Index (Sample: Married Workers) | | | | | |
|--|--|--|-------------------------------------|---------------------------------|-----------------------------------|
| | Age Gap: Worker and Spouse (1) | Spouse; Better Educ (2) | Spouse family Better Econ (3) | Log Spouse Income (4) | Spouse; Inside District (5) |
| Months worked in factory | 0.0174 (0.0749) [0.816] | -0.00286 (0.0102) [0.779] | -0.00962 (0.00948) [0.310] | 0.000382 (0.0141) [0.978] | 0.00254 (0.00825) [0.758] |
| Sample Mean | 6.038 | 0.328 | 0.255 | 8.666 | 0.797 |
| Observations | 598 | 591 | 597 | 587 | 598 |
| Panel B: Marriage Decisions and Attitudes | | | | | |
| | Earliest age get married (1) | Allowed to refuse proposal (2) | | | |
| Months worked in factory | 0.0845*** (0.0304) [0.005] | 0.0113* (0.00636) [0.076] | | | |
| Sample Mean | 21.97 | 0.336 | | | |
| Observations | 686 | 690 | | | |
| Panel C: Autonomy in Work Decisions | | | | | |
| | Stop Work Not Because Parents/Spouse Stopped (1) | Earnings Control Not Husband (2) | | | |
| Months worked in factory | 0.00818** (0.00397) [0.039] | 0.0101 (0.00657) [0.125] | | | |
| Sample Mean | 0.0797 | 0.253 | | | |
| Observations | 750 | 826 | | | |

Notes:

(1) Standard errors in parentheses and p -values in brackets(2) Asterix indicate significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A5: Age of Marriage

| | Married before age 21 (1) | Age of Marriage (2) | Age received first proposal (3) | Time between first proposal & marriage (4) |
|-------------------------------|------------------------------------|---------------------------------|--|---|
| Panel A: IV Results | | | | |
| Months worked in factory | -0.00725 (0.00546) [0.184] | 0.0772** (0.0388) [0.047] | 0.0514* (0.0275) [0.061] | 0.0333 (0.0352) [0.345] |
| Panel B: Reduced Form Results | | | | |
| Months before X 3 year | -0.00378 (0.00291) [0.194] | 0.0324** (0.0161) [0.044] | 0.0276* (0.0148) [0.064] | 0.0145 (0.0153) [0.344] |
| Sample Mean | 0.320 | 20.58 | 19.87 | 1.042 |
| Observations | 877 | 551 | 769 | 469 |

Notes:

- (1) Table shows results for the restricted sample that drops the cohort that had a poor tracking rate in the survey
- (2) Columns (1) to (4) of Panel A show the IV results for the impact of working outside the household on age of marriage.
- (3) The change in wage policy by the firm is used as an instrumental variable for months worked in factory.
- (4) Columns (1) to (4) of Panel B show the reduced form results for the effect of duration under the old contract on age of marriage.
- (5) Individual controls for age and education and cohort of joining fixed effects included.
- (6) Results are consistent with dropping cohort of joining fixed effects.
- (7) About 40% of the sample is unmarried and hence the sample size in columns (1) and (4) is smaller.
- (8) Robust standard errors in parentheses and p -values in brackets.
- (9) Asterisks denote significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A6: Costs of Delaying Marriage

| | No. of marriage proposals received (1) | Ever Married (2) | Log Gifts given during Wedding (3) | Spouse Quality Index (4) |
|-------------------------------|---|-----------------------------------|---|-----------------------------------|
| Panel A: IV Results | | | | |
| Months worked in factory | -0.0144 (0.0474) [0.761] | -0.000472 (0.00581) [0.935] | 0.0118 (0.0745) [0.875] | -.0055 (0.0094) [0.560] |
| Panel B: Reduced Form Results | | | | |
| Months before X 3 year | -0.00756 (0.0253) [0.765] | -0.000228 (0.00285) [0.936] | 0.00473 (0.0306) [0.878] | -0.00216 (0.00395) [0.585] |
| Sample Mean | 2.980 | 0.610 | 181242.9 | . |
| Observations | 784 | 908 | 543 | . |

Notes:

- (1) Table shows results for the restricted sample that drops the cohort with a poor tracking rate.
- (2) Columns (1) to (3) of Panel A show the IV results for the impact of working outside the household on the marriage market.
- (3) The change in wage policy is used as an instrumental variable for months worked in the factory.
- (4) Columns (1) to (3) of Panel B show the reduced form results for the effect of duration under the old contract on the marriage market.
- (5) Columns (4) shows the average effect size for the impact of working outside the household on spousal quality and the effects can be interpreted as standard deviation changes.
- (6) Please refer to the appendix section 2 for the composition of the index.
- (7) Individual controls for age and education and cohort of joining fixed effects included.
- (8) Results are consistent with dropping cohort of joining fixed effects.
- (9) About 40% of the sample is unmarried and hence the sample size in column (3) is smaller.
- (10) Robust standard errors in parentheses and p -values in brackets.
- (11) Asterisks denote significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A7: Fertility

| | Child before age 23 (1) | Age when first child was born (2) | No. of kids currently (if married) (3) | No. of kids currently (full sample) (4) | Desired Fertility (5) |
|-------------------------------|------------------------------------|--|---|--|------------------------------------|
| Panel A: IV Results | | | | | |
| Months worked in factory | -0.0124** (0.00606) [0.041] | 0.0849* (0.0511) [0.097] | -0.0217 (0.0171) [0.203] | -0.0232** (0.0106) [0.028] | -0.0172** (0.00832) [0.038] |
| Panel B: Reduced Form Results | | | | | |
| Months before X 3 year | -0.00618** (0.00309) [0.046] | 0.0282* (0.0169) [0.097] | -0.00835 (0.00700) [0.233] | -0.0114** (0.00535) [0.033] | -0.00859** (0.00389) [0.028] |
| Sample Mean | 0.362 | 21.53 | 0.946 | 0.516 | 1.928 |
| Observations | 625 | 336 | 424 | 779 | 526 |

Notes:

- (1) Table shows results for the restricted sample that drops the cohort that had a poor tracking rate in the survey
- (2) Columns (1) to (5) of Panel A show the IV results for the impact of working outside the household on fertility.
- (3) The change in wage policy by the firm is used as an instrumental variable for months worked in factory.
- (4) Columns (1) to (5) of Panel B show the reduced form results for the effect of duration under the old contract on fertility.
- (5) Individual controls for age and education and cohort of joining fixed effects included.
- (6) Results are consistent with dropping cohort of joining fixed effects.
- (7) About 40% of the sample is unmarried and in the pilot round of the survey we did not ask the number of children the woman had; therefore we do not have the full sample in columns (1) to (3).
- (8) Desired fertility was added in a later version of the survey and hence has a smaller number of observations.
- (9) Robust standard errors in parentheses and p -values in brackets.
- (10) Asterisks denote significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A8: Empowerment and Autonomy

| | Empowerment (1) | Internal Locus of Control (2) | Marriage Decisions & Attitudes (3) | Autonomy in Work Decisions (4) |
|-------------------------------|-----------------------------------|--|---|---|
| Panel A: IV Results | | | | |
| Months worked in factory | 0.0070* (0.0039) [0.074] | 0.0122** (0.0061) [0.044] | 0.0333*** (0.0107) [0.002] | 0.0264** (0.0118) [0.025] |
| Panel B: Reduced Form Results | | | | |
| Months before X 3 year | - 0.00400 (0.00293) [0.172] | 0.00698* (0.00375) [0.062] | 0.0187*** (0.00611) [0.002] | 0.0130** (0.00567) [0.022] |

Notes:

- (1) Table shows results for the restricted sample that drops the cohort that had a poor tracking rate in the survey.
- (2) Columns (1) to (4) show the average effect size for the impact of working outside the household on empowerment and autonomy and the effects can be interpreted as standard deviation changes..
- (3) Please refer to the appendix section 2 for the composition of the index.
- (4) The change in wage policy by the firm is used as an instrumental variable for months worked in the factory.
- (5) Panel A and B show the IV and reduced form results respectively.
- (6) Individual controls for age and education and cohort of joining fixed effects included.
- (7) Results are consistent with dropping cohort of joining fixed effects.
- (8) Robust standard errors in parentheses and p -values in brackets.
- (9) Asterisks denote significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A9: Household Wealth

| | Log Household Income (1) | Savings (2) | Loans (3) | HouseHold Assets (4) |
|-------------------------------|---------------------------------|--------------------------------|------------------------------|-------------------------------|
| Panel A: IV Results | | | | |
| Months worked in factory | 0.0130 (0.00958) [0.174] | -2632.4 (2132.5) [0.217] | 217.6 (1894.4) [0.909] | 0.0328 (0.0323) [0.310] |
| Panel B: Reduced Form Results | | | | |
| Months before X 3 year | 0.00629 (0.00457) [0.169] | -1244.4 (1017.6) [0.222] | 112.9 (1008.3) [0.911] | 0.0160 (0.0159) [0.315] |
| Sample Mean | 4907.3 | 58245.6 | 26870.4 | 5.722 |
| Observations | 884 | 648 | 554 | 908 |

Notes:

- (1) Table shows results for the restricted sample that drops the cohort that had a poor tracking rate in the survey
- (2) Columns (1) to (4) of Panel A show the IV results for the impact of working outside the household on household wealth.
- (3) The change in wage policy by the firm is used as an instrumental variable for months worked in factory.
- (4) Columns (1) to (4) of Panel B show the reduced form results for the effect of duration under the old contract on household wealth.
- (5) Individual controls for age and education and cohort of joining fixed effects included.
- (6) Results are consistent with dropping cohort of joining fixed effects.
- (7) Some respondents were not able to provide the value of savings and loans and hence the sample size in columns (2) and (3) is smaller.
- (8) Robust standard errors in parentheses and p -values in brackets.
- (9) Asterisks denote significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$