Serie documentos de trabajo

LABOR SUPPLY OF MARRIED WOMEN IN MEXICO: 1990-2000

Eva O. Arceo Gómez
Centro de Investigación y Docencia Económicas

Raymundo M. Campos-Vázquez
El Colegio de México

DOCUMENTO DE TRABAJO

Núm. XVI - 2010

.

Labor Supply of Married Women in Mexico: 1990-2000*

Eva O. Arceo Gómez† Raymundo M. Campos Vázquez‡

Centro de Investigación y Docencia Económicas El Colegio de México

December 2, 2010

Abstract

In the last couple of decades, and in particular during the last couple of administrations, the Mexican government has implemented various social programs targeted specifically to women, such as PROGRESA/*Oportunidades*, a child care program, and a gender equality program (PROIGUALDAD). The impact that those programs may have on the work behavior of women largely depends on the form that the female labor supply takes, and in particular, on the labor supply elasticities with respect to own wages, and the husband's wages. Despite this fact, the literature on female labor supply in Mexico is very scarce. To our knowledge, there is no estimate of the female labor supply elasticities at the national level. This paper fills in this gap in the literature. Using data from the 1990 and 2000 Mexican Census of Population, we estimate a structural model of labor supply through an application of Wooldridge's (2002) three-step procedure. We find that the female labor supply elasticities had a rather sharp decrease between 1990 and 2000, which suggests that women are getting increasingly attached to the labor market. We also find evidence of heterogenous effects for women with young children and women of different cohorts. Even though female are now less responsive to changes in wages, the elasticities that we find are still large enough so that social programs aimed at modifying females' work behavior through incentives might still be very successful.

*We are indebted to David Card for his support and guidance during the development of this project. We would also like to thank George Akerlof, Chang Tai-Hsieh, Edward Miguel, Steven Raphael, and Rafael de Hoyos for their comments at different stages of this project.

†Eva's contact information: eva.arceo@cide.edu

‡Raymundo's contact information: rmcampos@colmex.mx. Mailing address: Camino al Ajusco 20, Pedregal de Santa Teresa, México D.F., 10740.

1 Introduction

In the last couple of decades, and in particular during the last couple of administrations, the Mexican government has implemented various social programs targeted specifically to women, such as PROGRESA/*Oportunidades*, a child care program, and a gender equality program (PROIGUALDAD). The impact that those programs may have on the work behavior of women largely depends on the form that the female labor supply takes, and in particular, on the own-wage and husband's-wage (or cross-wage) labor supply elasticities. Despite this fact, the literature on female labor supply in Mexico is very scarce. To our knowledge, there is no estimate of the female labor supply elasticities at the national level. This paper fills in this gap in the literature. We estimate a structural model of labor supply using Wooldridge's (2002) three-step procedure. We find that the female labor supply elasticities had a rather sharp decrease between 1990 and 2000, which suggests that women are getting increasingly attached to the labor market. We also find evidence of heterogenous effects for women with young children and women of different cohorts. Even though female are now less responsive to changes in wages, the elasticities that we find are still large enough so that social programs aimed at modifying married females' work behavior through incentives might still be very successful.

Female labor supply has been an active field of research in labor economics since the 1960s.[1] The study of female labor supply behavior is important because of its profound social, economic, and political consequences. The ability of women to earn their own income affects their position relative to males, as female work enhances gender equality; their decisions about education, marriage and fertility; their ability to influence intrahousehold decision making; their ability to organize politically and advance their own interests; and the gender relations within a society (Killingsworth and Heckman, 1987; Duflo, 2005; World Bank,

[1] The literature in the United States and the United Kingdom is extremely abundant, and it is not my objective to review it here. Killingsworth and Heckman (1987), and Blundell and Macurdy (1999) provide a review of the literature. Two recent studies which take a long-term approach to analyze female labor supply in the United States are Blau and Kahn (2007) and Goldin (2006).

2001). In the context of developing countries these issues are much more important given the inferior position of females relative to males on all dimensions of the social, economic and political life. Moreover, the development process tends to favor females disproportionately more than it favors males (Duflo, 2005; World Bank, 2001). Since the development process is itself interrelated to female participation in the labor market (Goldin, 1994; Cordourier and Gómez Galvarriato, 2004), understanding the implications of female labor supply in a developing country is especially significant.

In a cross section of countries, Goldin (1994) found that there is a U-shaped relationship between income per capita and female labor force participation. Apparently the income effects dominate at low levels of development, whereas the substitution effects do so at higher income levels. Mexico is an interesting case because it shares some characteristics of an industrialized and a developing country. Figure 1 shows that this U-shaped pattern is present in Mexico over time: participation rates dropped until 1930, and they have been growing ever since then. Moreover, Figure 2 shows that this U-shaped relationship is also present in a cross-section; the figure presents the participation rates by municipality against the log of the average income in the municipality. At very low income levels, the participation rates are very high; then, as income in the municipality increases we can observe a gradual drop in the percentage of females working, which reverses at very high income levels.

Despite the progress made over the last decades, Mexico's female labor force participation is still at a very low level, around 40% in 2005. Figure 3 compares Mexico with other Latin American countries. There have been sharp increases in the participation rates of Mexican females, but these look modest when compared countries in Latin America with similar levels of development, like Argentina, Brazil, and Colombia (Panel A).[2] Mexico looks more similar to Central American countries (Panel B). A striking feature in Mexico's plot is that it seems to be the least steep among the Latin American countries, with the exception of Chile. In Figure 4 Panel A, we observe that Mexico, the United States, Canada and Portugal share

[2]Chile is perhaps the only country in Latin America (apart from Mexico) that exhibits this low participation rate.

a common feature of their female labor participation: the participation rate has leveled-off in the last 10 years; however, Mexico did so at a very low level. Ireland and Mexico started off in the 1990s with a similar participation rate, but Ireland has seen a massive incorporation of females into the labor force, possibly boosted by its economic performance. In the Panel B of that Figure, we compare Mexico to Mediterranean countries and we also observe that Mexico has the least steep plot –with the obvious exception of Turkey. Despite the importance of the topic and the seemingly puzzling facts on the evolution of the female participation rates in Mexico, the literature on female labor supply in Mexico is very scarce.

The existing literature on the constraints to female labor in Mexico focuses on the intra-household division of labor. This literature hypothesizes that females' labor is constrained by their socially determined household responsibilities as they relate to childbearing and domestic reproduction. In particular, several researchers have analyzed the effect of household structure on female labor force participation. Wong and Levine (1992) estimate reduced form equations of the effect of household structure on mothers' work decisions and fertility decisions. They find that having a "mother substitute" increases participation in the labor force and reduces fertility for non-working women (but they find no effect on working women). Gong and Soest (2002) estimate a structural model of female labor supply to shed light on the effect of household structure on female labor decisions. Using data for Mexico City from the National Survey of Urban Employment from the second quarter of 1992, they find that the own-wage elasticity is around 0.86 and the income elasticity is around -0.17.[3] In order to have an idea of the magnitude of these estimates, using US data for the period 1989-1991, Blau and Khan (2006) find that the own-wage elasticity is around 0.6 and the cross-wage elasticity with respect to the husband's wage is around -0.25. Considering Mexico's context, the income elasticity seems to be rather low. Although the estimates are not strictly comparable, married females do not seem to be much more responsive to changes in the income of other family members than in the United States.

[3]Non-labor income is measured as the income of the household less own income. The data they use has no information on asset's income or other type of benefits.

Cunningham (2001) estimates the response of female labor force participation to falling family earnings. She hypothesizes that female labor responses to falling family earnings are influenced by the household role of the female. In this sense, women who act as caregivers might be used as added workers when the family experiences economic hardship. However, women who act as breadwinners must not respond in the same way. Her findings confirm this hypothesis on the household roles. Married females with children tend to respond more in times of economic struggle than single females who are heads of household or single women without children. Parker and Skoufias (2004, 2006) study the effect of the 1995 peso crisis on female labor force participation. They also show evidence that there are significant added worker effects during the crisis period. That is, as the husbands lost their employment, more wives were pushed into the labor force in order to smooth the effects of the crisis on family earnings. There are two shortcomings in this literature. First, the literature focuses just on the extensive margin, and it does not analyze the effects of the crisis on hours of work. And second, Cunningham (2001) does not differentiate the effect of the husband's earnings on female labor from the effect of the wages of other family members.

As such, there are many remaining questions unanswered in the literature on Mexico. An example is that there is no empirical evidence on how female labor supply decisions respond to their husband's wages: what is the cross-wage elasticity of female labor supply in Mexico? An estimate of the cross-wage elasticity would also allow us to draw some conclusions on the importance that women place on their own work: are female labor decisions heavily dependent upon the income-generating power of their husbands, or do they make their labor decisions on a more independent fashion?

In this paper we will use data from the 1990 and 2000 Mexican Census of Population to estimate a structural model of labor supply. The estimation of such a model imposes several identification challenges on our empirical strategy because of the presence of sample selection and the endogeneity of wages. In order to correct for endogeneity, we will follow Mroz (1987) and use two sets of instrumental variables: (1) the interactions between the

female's education and age variables; and (2) these interactions and the husband's age and education. Moreover, we will also assume that the number of children and the husband's wage are exogenous. We then proceed to estimate our model using Wooldridge's (2002) three-step procedure. The identification of the labor supply parameters will come from the assumption that the non-linearities of education and age do not affect wages.

Our main results suggest that the own-wage and cross-wage elasticities of females decreased between 1990 and 2000. We do not observe this drop in the elasticities of the labor supply of males, so that this change in behavior seem to be exclusive of women. Our results are similar to those found by Blau and Kahn (2007) for the United States, and they suggest that Mexican women, too, are getting increasingly attached to the labor force. We estimated the structural model for other subgroups of women: those with children under 5 years of age and by age groups. We find that women with young children are much more responsive to changes in the wages than the average Mexican woman. This may be possibly due to the fact that their time allocation is constrained by their caregiving responsibilities. Our estimations by age groups suggest that younger women (i.e. those born between 1956 and 1965) are the ones who exhibit the largest drop in the elasticities. However, the female labor supply of women of all age groups is growing increasingly inelastic over time. Nevertheless, the elasticities we found are still large enough for social programs aimed to increase the labor supply of married women to be successful.

The paper is organized as follows. Section 2 describes the data and some stylized facts about the recent trends of the female labor supply in Mexico. Section 3 explains the identification problems when estimating the female labor supply and our estimation strategy. In Section 4 we lay out our main results, some robustness tests, and we explore the heterogeneity in work behavior across different groups of women. Section 5 presents some concluding remarks and the policy implications of our estimates. In this last section we also comment on future areas of research.

2 Data and Facts

We use a 10 percent random sample from the 1990 and 2000 Mexican Census of Population provided by the IPUMS-International (Ruggles *et al.*, 2008). Since our analysis consists on estimating the own- and cross-wage elasticities of female labor supply, our sample consists of married couples who are between 25 and 55 years of age.[4] In this way we are trying to make sure that the decision to work is relevant: these people are not likely to be retired nor enrolled in school. Our analysis will be based on information about hours of work and the husband's and wife's wages, so we dropped the people who reported working without pay, or which reported working, but did not report a wage. We are going to restrict our analysis to individuals living in urban areas, which are defined as those locations with more than 2,500 inhabitants.[5] In order to make our case for this restriction, Table 1 presents a comparison between the females in urban and rural areas. Women in rural areas are less educated and have more children on average. These women represent a challenge to our estimation because they have very low participation rates: only 6.5 of them worked in 1990, and only 20.4 percent did so in 2000. In contrast, women living in urban areas had participation rates of 27.9 and 43.3 percent in 1990 and 2000, respectively.

We further restricted our data to those households with just one married couple, and where both of the spouses were present. Table 2 presents the summary statistics of our final sample which consists of 537,109 couples in 1990, and 627,114 couples in 2000. Our sample of urban households is slightly older and more educated than the average urban household. The females in our sample participate less, and tend to work less hours than the average urban married female. Between 1990 and 2000 we find that the education gap between husbands and wives closed from 1.22 years to just 0.72. The females in our sample also increased their participation in the labor force from 17.94 percent to 33 percent, an increase

[4] We decided to focus on married women because their decision to work is more of a choice as compared to single women with children. Moreover, one of the goals of the paper is to estimate the elasticity with respect to the husband's wage.

[5] This is the definition of urban areas used by the *Instituto Nacional de Estadística y Geografía* (INEGI), the main statistical agency in Mexico.

of just over 15 percentage points.

Figure 5 presents the participation rates and the mean hours of work conditional on employment across education and age groups. Panel A in the Figure shows that all females increased their participation rates. The increase was the largest for females with less than primary school, and for females aged 25-34 years in 1990 and turned 35-44 in 2000. If we just look at the age groups, then females between 35 and 44 years old are the ones who exhibit the largest increase, but as we said, this may be a cohort effect. Panel B in the figure shows the mean weekly hours of work conditional on employment. Women do not seem to have adjusted their supply of hours by much, and if anything, these decreased on average. So females have mostly adjusted their work supply at the extensive margin (i.e. participation), which is in contrast to the behavior of men who have adjusted their supply mostly at the intensive margin (i.e. hours of work).[6]

3 Estimation Strategy

Our objective is to establish whether females' work behavior has changed over time in Mexico. Hence, we are interested on estimating an equation of the following form

$$h_i^f = \theta^f \log w_i^f + \theta^m \log w_i^m + \Pi X_i + u_i, \tag{1}$$

where h_i^f are the female i's hours of work; w_i^f is her wage; w_i^m is the wage of her husband; and X_i is a vector of covariates. In our case, X_i will include age and education of the female, indicator variables for number of kids less than five years old in the household (one kid, two kids and more than two kids) and indicator variables for region (5 variables).[7] The estimation of this equation in a cross-section imposes several empirical challenges on the

[6] Table B-1 in Appendix B presents these same work variables for married males in our sample.

[7] It is important to mention that the labor supply regression does not include any information on the husband. Even though Blau and Kahn (2007) include these variables into the main regression, most of the literature does not follow that convention.

identification strategy. First and foremost, we can only observe w_i^f if the woman is working, $h_i^f > 0$, so that there are sample selection and simultaneity issues. Females with strong preferences for work are going to have a higher participation regardless of their wage, and their husband's wages. Hence running a regression for only working women provides a biased estimate of the labor supply parameters (Heckman, 1974 and 1979).

The second problem with the estimation of regression (1) is that w_i^f is endogenous and subject to division bias. For instance, females with a strong taste for work will tend to invest more in their human capital, and thus increase the potential wage that they can earn in the labor market. At the same time, females with a stronger preference for work will tend to participate more in the labor market regardless of their own wage. As a consequence, a spurious correlation between hours and work may arise given the preferences for work. Hence, in order to correctly identify the own-wage elasticity one would require either a demand shifter or an instrumental variable for the wage.[8]

Finally, it is not clear that the husband's wage and the number of children in the household are truly exogenous. For example, if there is positive assortative matching, then the husband's characteristics are going to be positively correlated with the wife's characteristics. As a result, some unobservable characteristics that are both linked to the husband's wage and the female labor supply may bias our estimates. In the case of children, it is possible that women with strong preferences for work will anticipate their intensive participation in the labor market, and thus decide to have less children.

The literature in female labor supply has used different specifications to estimate the own-wage and cross wage elasticities. In this paper we will implement Mroz's (1987) specification to estimate the elasticities of the labor supply of married females. After an extensive analysis of female labor supply specifications, Mroz finds that the husband's income and the number

[8]Several approaches have been undertaken in the literature to tackle this problem. Ransom (1987) ignores it, and assumes wages are exogenous. Kooreman and Kapteyn (1987) use age and education as an instrument for the wage. Mroz (1987) uses interactions of the female's age and education as instruments for the wage. Juhn and Murphy (1997) use the wage decile as an instrumental variable. Devereux (2004) uses group indicators as instruments. The group indicators are defined by the age and education of the husband and wife.

of children can be considered exogenous in the regression. We follow this finding and assume that husband's income and number of kids are exogenous in specification (1). Moreover, in order to correct for the endogeneity of wages, we will also use two sets of instruments: (IV1) interactions of female's age and education variables, and (IV2) those interactions and the husband's age and education.

In order to estimate the female and male labor supply, we follow Wooldridge's (2002) three-step method to control for sample selection issues. This procedure is similar to that in Heckman (1976, 1979). However, instead of running a probit in the first stage, Wooldridge proposes to estimate a Tobit model, and then to use the residuals of this regression as a control function in the wage equation (which is analogous to the inverse Mills ratio in Heckman's specification). Consider the following structural female labor supply model:

$$\begin{aligned} \log\left(w_i^f\right) &= \beta \log w_i^m + \Gamma X_{1i} + \varepsilon_i \\ h_i^f &= \max\left[0, \theta^f \log w_i^f + \theta^m \log w_i^m + \Pi X_{2i} + u_i\right] \end{aligned}$$

where w_i^f is the female's wage; w_i^m is the male's wage; X_{1i} and X_{2i} are vectors of exogenous variables; h_i^f is the female's hours of work; and (ε_i, u_i) are assumed to be bivariate normal with zero mean. The problem with the estimation of this system is that we can only observe w_i^f if $h_i^f > 0$, so w_i^f is endogenous. Wooldridge's three-step procedure is as follows:

1. Estimate a Tobit of h_i^f on all the exogenous variables:

$$h_i^f = \tilde{\theta}^m \log w_i^m + \tilde{\Pi} X_{2i} + \nu_i,$$

   where the bounds are set to $[0, 96]$;[9] and obtain the residuals $\hat{\nu}_i$.

2. Estimate the wage equation controlling for the residuals obtained in (2) and restricting

[9] The upper bound is set to 96 weekly hours because that is the amount of hours an individual with two full-time jobs would work per week (assuming she takes a day off per week).

the estimation to working individuals:

$$\log w_i^f = \tilde{\beta} \log w_i^m + \tilde{\Gamma} X_{1i} + \delta \hat{\nu}_i + \varepsilon_i, \text{ if } h_i^f > 0 \tag{2}$$

Then, we need to estimate the wages for everyone in the sample as follows:

$$\widehat{\log w_i^f} = \hat{\tilde{\beta}} \log w_i^m + \hat{\tilde{\Gamma}} X_{1i}.$$

This step allows us to correct for the selection bias. If there is a selection problem, then we would expect that $\delta \neq 0$.[10] Hence, these estimated wages are going to be purged of selection bias.

3. Using a Tobit model estimate the labor supply equation where the endogenous variable is substituted with the predicted wage estimated in step 2:

$$h_i^f = \theta^f \widehat{\log w_i^f} + \theta^m \log w_i^m + \Pi X_{2i} + u_i$$

The identification in this procedure is coming from the inclusion of at least one variable in X_{1i} that is not in X_{2i}. As we have mentioned, we will use two sets of instruments: interactions between own education and own age (IV1), and these interactions and spouse's age and spouse's education (IV2). The identifying assumption implies that non-linearities in the age-education profile affect wages but do not affect hours of work after including age and education variables. It is hard to argue in favor of the excludability of these variables from the hours equation, but this is the convention in the literature (Mroz, 1987) and we are going to follow it in this regard. We estimate this model for the females whose husband's have a valid wage.

[10] We will also add higher order terms of $\hat{\nu}_i$ to the equation above. In this case, we will test whether all the coefficients in the polynomial of $\hat{\nu}_i$ are equal to zero using an F-statistic.

4 Results

4.1 Main Specification

Table 3 shows the estimates of the female supply wage coefficients and the implied elasticities using the first set of instruments: interactions between own education and own age. This table also shows an estimation of the male labor supply, which we will use as a benchmark to analyze changes in the behavior of females.[11] Column (1) in Table 3 presents the estimates of the female labor supply curve in 1990. According to these estimates, a ten percent increase in female wages would induce a 28 percent increase in the hours of work. In contrast, a ten percent increase in the husband's wage would lead females to decrease their labor supply by 9.5 percent.[12] In 2000, these female labor supply elasticities are much smaller.

These changes in the own- and cross-wage elasticities are the main focus of our analysis. According to our estimates the own-wage elasticity of female labor supply in Mexico decreased by over 2 percentage points between 1990 and 2000. We also find that the cross-wage elasticity of female labor decreased by over half a percentage point. In 2000, a ten percent increase in female wages induces a 6.1 percent increase in the hours of work; whereas, a ten percent increase in male wages induces just a 2.7 percent decrease in the females' hours of work. Hence, the female labor supply got more inelastic to changes in both own and husband's wages. Our estimates are more or less robust to the addition of the spouse's age and education as instrumental variables, as Table 4 presents. The results are also robust to the addition of higher order terms to the control function in equation (2) (not shown).[13]

[11] The procedure we used to estimate the labor supply of males is described in Appendix A. The complete female and male labor supply estimations are shown in Tables B-1 and B-3 in Appendix B. The estimations in Tables B-2 and B-4 included higher order terms of $\hat{v}_i$ in the wage regression (2) . The estimates are robust to the addition of these terms in the control function.

[12] Our estimate of the own-wage elasticity is not entirely comparable to that in Gong and Soest (2002), since they used data just for Mexico City. Mexico City is the most developed city in Mexico, and it has the highest female labor force participation rates in the country. So it is natural to expect that the own-wage female labor supply elasticity is lower in Mexico City as compared to Mexico overall. However, we still think that Gong and van Soest's (2002) estimates are low, even for Mexico City's context.

[13] The coefficient on $\hat{\nu}_i$ in equation (2) is statistically different from zero in our specifications (not shown). Whenever we controlled for a polynomial on $\hat{\nu}_i$, the F-statistic rejected the hypothesis that all the coefficients in the polynomial were equal to zero. These two tests suggest that there is a selection problem.

As compared to the female labor supply, we do not find such large decreases in the elasticities of males (see Columns 3 and 4 in Table 3 and Table 4). The literature on labor supply has commonly found that the male labor supply is much less elastic than the female labor supply, possibly due to the fact that bread-winning responsibilities lie on the men. Our findings suggest that over time women's work behavior has started to look more like their men's counterpart. This is a similar result to that in Blau and Kahn (2007) and Goldin (2006) in the United States. It is possible that the difference between the male's and female's roles within the household is attenuating over time, so that females are now more attached to the labor market than in the past. As a result, females' labor supply becomes less responsive to changes in both their own wages and the wages of their husbands.

4.2 Heterogeneity

We would like to explore whether females with different characteristics exhibit a different work behavior. For instance, if married females with young children are more constrained by their caregiving responsibilities, then they should exhibit less attachment to the labor market. Table 5 presents the estimated elasticities for married females with young children in 1990 and 2000. The IV1 results suggest that the labor supply of females with young children is much more responsive to changes in own and husband's wages. In addition, the relative change between 1990 and 2000 is not as large as that we observed in the estimates for all married women. The results are robust to the use of the second set of instruments, and to the addition of higher order terms to the control function in equation (2) (not shown). These estimates indicate that mothers with children under 5 years of age are much less attached to the labor force than the average married woman. This lack of attachment is possibly due to their children imposing important constraints to their allocation of time.

We are concerned with the possibility that our results are driven by cohort effects. Younger cohorts may be much more attached to the labor force due to cultural changes. In the case of the United States, Goldin (2006) pointed out that younger women are more

career oriented than their older counterparts. As a result, the increases in the labor force participation that the United States experienced were mostly driven by the incorporation of these women into the labor force. It is very possible that Mexico is undergoing a similar transformation. The education levels of women have grown constantly in the last two decades, and the education gap between men and women is closing. In order to explore these issues and following Blau and Kahn (2007), we estimated our model by age groups. Table 6 presents these labor supply elasticities for the two sets of instruments that we have been using –although we will focus on the IV1 implied elasticities. In 1990 women aged between 45 and 54 seemed to have the lowest own-wage and cross-wage elasticities, so they exhibited the strongest attachment to the labor force when compared to the other two groups. However, by 2000, it is the youngest group of females the one that is the most attached to the labor force. This is suggestive that there could be large differences across cohorts.

Our results suggest that women of all ages have experienced a drop in the elasticities. However, if we follow the cohort over time, we will see that this drop is the largest for females between 25 to 34 years of age in 1990 (those born between 1956 and 1965). Taking the IV1 estimates, we find that their own-wage elasticity was 3.3294 in 1990, and it decreased to 0.6487 in 2000 when they are 35-44 years old –this is over an 80 percent drop. We observe something similar in the cross-wage elasticity: in 1990 this is -1.039, but in 2000 it dropped to -0.2913 –over a 70 percent decrease. Females born between 1946 and 1955, or those between 35 and 44 years old in 1990, also experience a decrease in both elasticities, but it is not as large as the one experienced by the next ten year cohort. The findings suggest that the overall trend in the elasticities is dominated by the females born between 1956 and 1965.

5 Conclusions

Our goal in this paper was to study the changes in the labor supply of Mexican married women. We find that between 1990 and 2000 married women in Mexico experienced a rather

substantial increase in their participation in the labor force of around 10 percentage points. After estimating a structural model of labor supply, we found that the own- and cross-wage elasticities decreased during this period suggesting that Mexican women are getting more attached to the labor market. When we compare our results to those reported in Blau and Kahn (2007), we find however that in 1990 the labor supply elasticities were considerably higher than the levels experienced by American women in 1979-1980. However, in 2000 we found that the elasticities of Mexican females are around the same level of those American married women in 1989-1990, which suggests a very sharp change in the behavior of Mexican females. Given that most of the adjustment in the female labor supply has been at the extensive margin, it may be pertinent to perform a similar analysis as the one we presented for the decision to participate in the labor force. We leave this analysis for our future research agenda.

Our results have important policy implications. First, the urban components of social programs, such as PROGRESA/*Oportunidades* in Mexico may have adverse effects on the women's incentive for work by providing them with another income source. Our findings though suggest that these adverse effects are attenuating over time. Hence, it is important to perform a study of the impact of this type of programs in the work behavior of the adult beneficiaries. This is a research topic that we will leave for future work.

Our results also suggest that programs that promote gender equality at work, such as the *Programa Nacional de Igualdad entre Mujeres y Hombres* (PROIGUALDAD –National Program for the Equality between Men and Women), can have important effects on the labor force participation of females. For instance, according to the 2004 Human Development Report (UNDP, 2005), the income of females in Mexico represented only 36 percent of that of men. Suppose PROIGUALDAD were able to reduce the gap such that women could earn half as much as men leaving men's wages constant. Then our estimates for 2000 suggest that such an increase in the wages would increase female labor supply by 23 percent. This high own-wage labor supply elasticity represents a unique opportunity for the policymakers

to provide incentives for women's work.

Another important policy implication of our results relates to the mothers of young children. Our estimates suggest that women with children under 5 years of age are much less attached to the labor force, and although they also exhibit a decrease in their labor supply elasticities, the decrease is not as large as that of the average married woman. These results suggest that young children impose a constraint on the time their mothers can supply to the labor market. Hence, the provision of child care may encourage these women to increase their labor supply and, hence, to be more attached to the labor force. In order to know whether this conjecture is correct, we require a more systematic study of the effect of children on female labor supply in Mexico.

As we have mentioned, our results suggest that Mexican females are also converging to the males' work behavior as it has been happening in the United States during the last decades (Blau and Kahn, 2007). It would be very interesting to study whether this is a generalized trend in Latin America. Much more interesting would be to find what the driving forces of this process are. So far, the literature has only hypothesized that women are more career-oriented. However, this attitude towards work may be another result in the process of incorporation of females into the labor force.

References

Blau, F. D., and L. M. Kahn (2007): "Changes in the Labor Supply Behavior of Married Women: 1980-2000," *Journal of Labor Economics*, 25(3), 393–438.

Blundell, R., and T. Macurdy (1999): "Labor supply: A review of alternative approaches," in *Handbook of Labor Economics*, ed. by O. Ashenfelter, and D. Card, vol. 3 of *Handbook of Labor Economics*, chap. 27, pp. 1559–1695. Elsevier.

Cordourier, G., and A. Gómez-Galvarriato (2004): "La evolución de la participación

laboral de las mujeres en la industria: una visión de largo plazo," *Economía Mexicana*, XIII(1), 63–104.

CUNNINGHAM, W. V. (2001): "Breadwinner versus Caregiver: Labor Force Participation and Sectoral Choice over the Mexican Business Cycle," in *The Economics of Gender in Mexico: Work, Family, State, and Market*, ed. by E. G. Katz, and M. C. Correia, pp. 85–122. The World Bank.

DEVEREUX, P. J. (2004): "Changes in Relative Wages and Family Labor Supply," *The Journal of Human Resources*, 39(3), 696–722.

DUFLO, E. (2005): "Gender Equality and Development," BREAD Policy Paper 011, Bureau for Research and Economic Analysis of Development.

GOLDIN, C. (1994): "The U-Shaped Female Labor Force Function in Economic Development and Economic History," NBER Working Papers 4707, National Bureau of Economic Research, Inc.

——— (2006): "The Quiet Revolution That Transformed Women's Employment, Education, and Family," *American Economic Review*, 96(2), 1–21.

GONG, X., AND A. V. SOEST (2002): "Family Structure and Female Labor Supply in Mexico City," *The Journal of Human Resources*, 37(1), 163–191.

HECKMAN, J. J. (1974): "Shadow Prices, Market Wages, and Labor Supply," *Econometrica*, 42(4), 679–694.

——— (1976): "The Common Structure of Statistical Models of Truncation, Sample Selection and Limited Dependent Variables and a Simple Estimator for such Models," *Annals of Economic and Social Measurement*, 5(4), 120–137.

——— (1979): "Sample Selection Bias as a Specification Error," *Econometrica*, 47(1), 153–161.

Juhn, C., and K. M. Murphy (1997): "Wage Inequality and Family Labor Supply," *Journal of Labor Economics*, 15(1), 72–97.

Killingsworth, M. R., and J. J. Heckman (1987): "Female labor supply: A survey," in *Handbook of Labor Economics*, ed. by O. Ashenfelter, and R. Layard, vol. 1 of *Handbook of Labor Economics*, chap. 2, pp. 103–204. Elsevier.

Kooreman, P., and A. Kapteyn (1987): "A Disaggregated Analysis of the Allocation of Time within the Household," *The Journal of Political Economy*, 95(2), 223–249.

Lundberg, S., and E. Rose (2002): "The Effects Of Sons And Daughters On Men'S Labor Supply And Wages," *The Review of Economics and Statistics*, 84(2), 251–268.

Mroz, T. A. (1987): "The Sensitivity of an Empirical Model of Married Women's Hours of Work to Economic and Statistical Assumptions," *Econometrica*, 55(4), 765–99.

Parker, S. W., and E. Skoufias (2004): "The added worker effect over the business cycle: evidence from urban Mexico," *Applied Economics Letters*, 11(10), 625–630.

Programa de las Naciones Unidas para el Desarollo (2005): *Informe sobre Desarrollo Humano México 2004*. PNUD, Distrito Federal, Mex.

Ransom, M. R. (1987): "An Empirical Model of Discrete and Continuous Choice in Family Labor Supply," *The Review of Economics and Statistics*, 69(3), 465–72.

Ruggles, S., M. Sobek, T. Alexander, C. A. Fitch, R. Goeken, P. K. Hall, M. King, and C. Ronnander (2008): *Integrated Public Use Microdata Series: Version 4.0 [Machine-readable database]*. Minnesota Population Center [producer and distributor], Minneapolis, MN.

Skoufias, E., and S. Parker (2006): "Job loss and family adjustments in work and schooling during the Mexican peso crisis," *Journal of Population Economics*, 19(1), 163–181.

THE WORLD BANK (2001): "Engendering Development: Through Gender Equality in Rights, Resources, and Voice," World Bank Policy Research Report 21776, The World Bank.

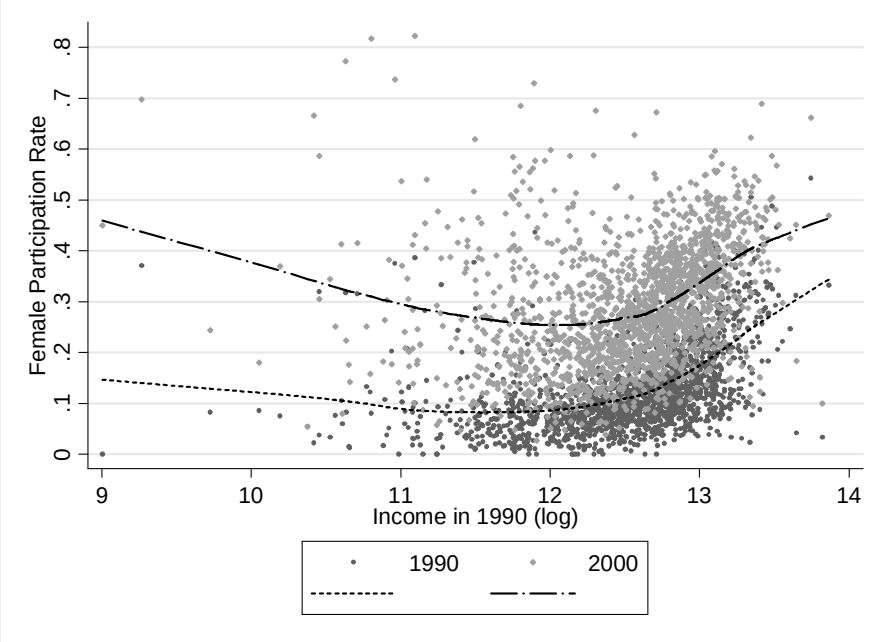
WONG, R., AND R. E. LEVINE (1992): "The Effect of Household Structure on Women's Economic Activity and Fertility: Evidence from Recent Mothers in Urban Mexico," *Economic Development and Cultural Change*, 41(1), 89–102.

WOOLDRIDGE, J. M. (2002): *Econometric Analysis of Cross Section and Panel Data*. The MIT Press, Cambridge, Mass.

Figure 1: Historical Female Participation in Mexico

Notes: The graph was constructed using *Encuesta Nacional de Empleo Urbano* (ENEU) and Census data.

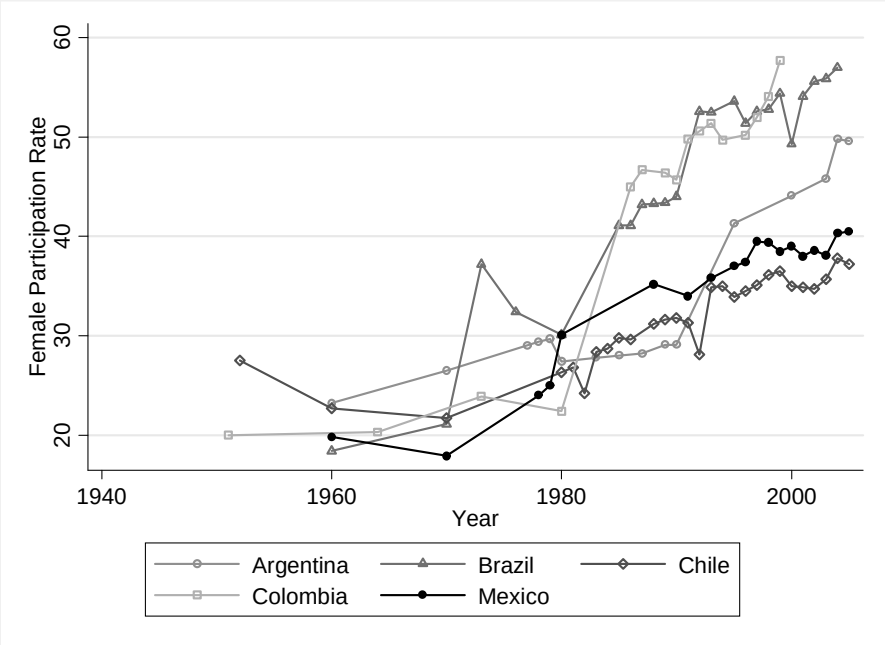
Figure 2: Female Participation Rates by Municipality



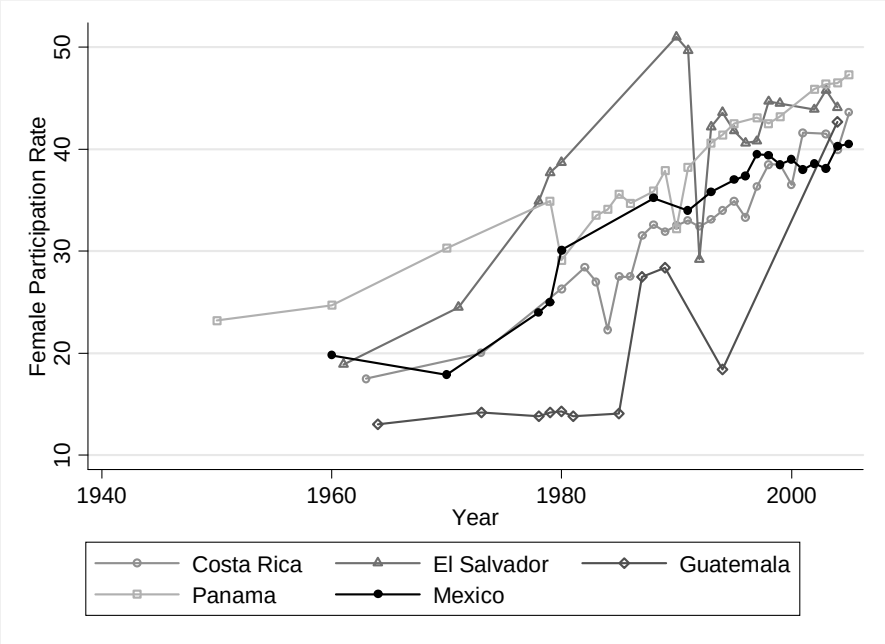
Notes: Author's estimation using 1990 and 2000 Census data.

Figure 3: Mexico vs. other Latin American Countries

A.



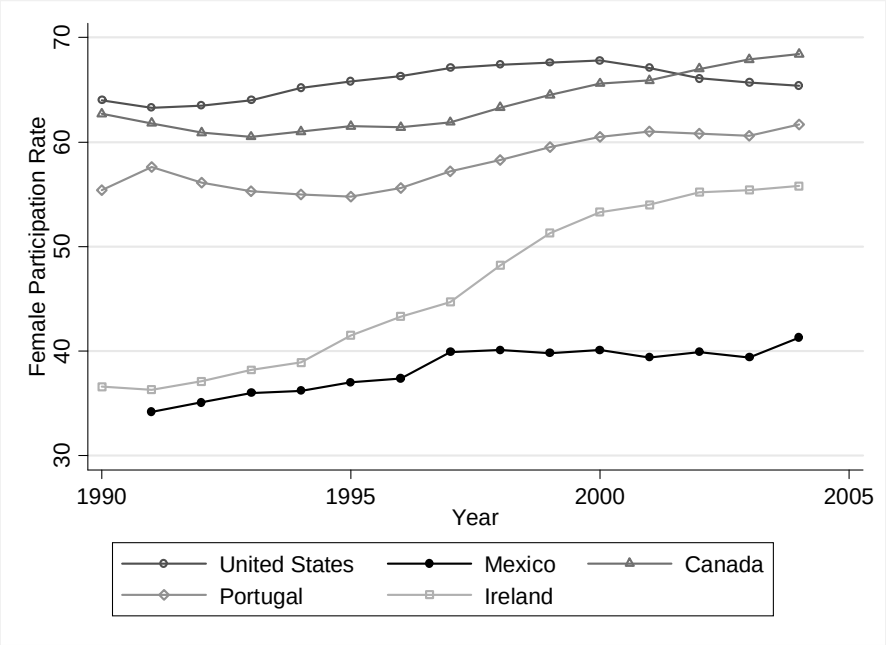
B.



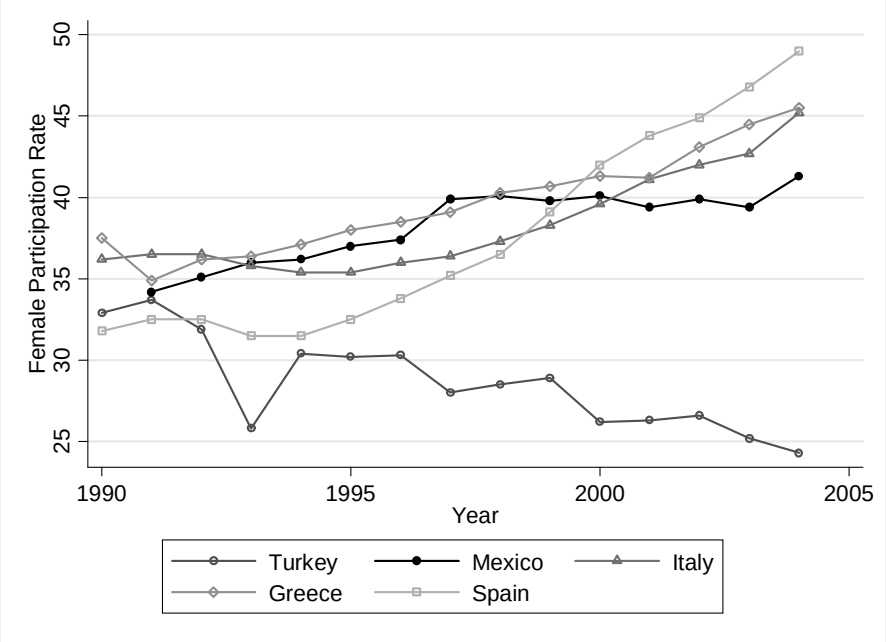
Notes: The graph uses data from the International Labor Organization.

Figure 4: Mexico vs. other OECD Countries

A.



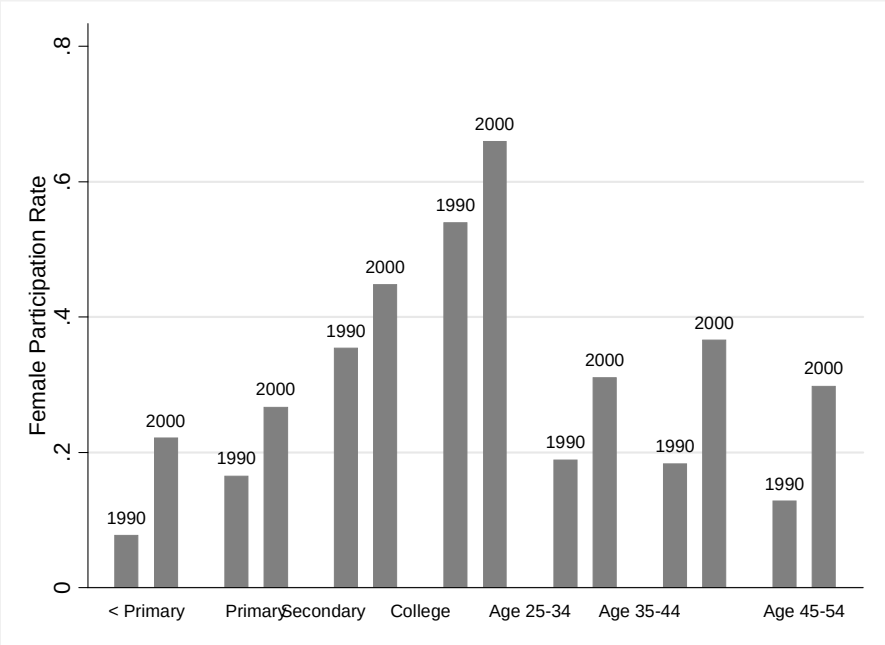
B.



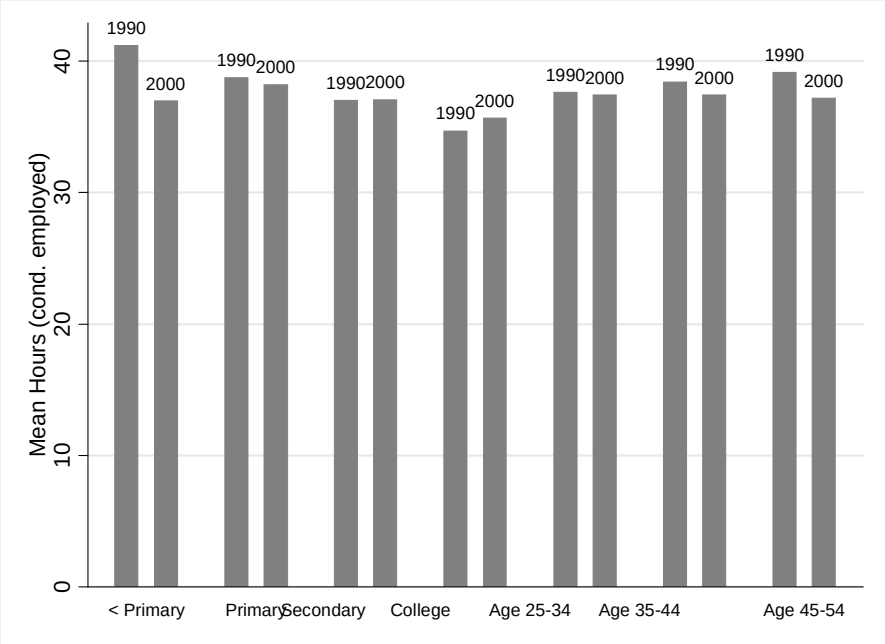
Notes: The graph uses data from the Organization of Economic Cooperation and Development.

Figure 5: Married Females Work Behavior

A.



B.



Notes: Author's estimations using 1990 and 2000 Census data.

Table 1: Urban vs. Rural Females

	1990		2000	
	Urban	Rural	Urban	Rural
Socio-demographic characteristics:				
Age	36.33	36.87	36.8	37.02
Education	6.518	2.861	8.442	4.418
< Primary	0.3459	0.7851	0.2168	0.5874
Primary	0.4666	0.1928	0.4942	0.3647
Secondary	0.1283	0.01486	0.184	0.03409
College	0.05921	0.007172	0.105	0.01374
Num. children	2.464	3.296	2.029	2.804
Num. children<5	0.4452	0.6669	0.3516	0.5055
% w/ Children<5	0.3334	0.4369	0.2842	0.3681
Family Size	5.207	5.894	4.799	5.6
% Married	0.7758	0.8516	0.7384	0.8195
Work behavior:				
Hrs. of work	11.28	2.656	17.42	7.928
	[19.77]	[11.01]	[23.01]	[18.17]
% Working	0.2793	0.06555	0.4332	0.204
	[0.4486]	[0.2475]	[0.4955]	[0.403]
Income	4913	3169	3456	1976
	[20954]	[16815]	[11089]	[11992]
Observations	998673	317210	1165373	632150

Notes: Author's calculations from the 1990 and 2000 Mexican Census. Standard deviations are in brackets.

Table 2: Summary Statistics of the Final Sample

	1990		2000	
	Male	Female	Male	Female
Socio-demographic characteristics:				
Age	38.22	35.21	38.52	35.95
Education	7.789	6.569	9.257	8.538
< Primary	0.2805	0.3253	0.1685	0.193
Primary	0.4699	0.4989	0.495	0.5225
Secondary	0.1242	0.1238	0.1752	0.187
College	0.1254	0.05205	0.1613	0.09746
Num. children		3.007		2.433
Num. children<5		0.6016		0.4689
% w/ Children<5		0.4514		0.3774
Family Size		5.192		4.63
Work behavior:				
Hrs. of work	43.75	6.816	47.76	12.3
	[19.23]	[15.82]	[19.41]	[20.21]
% Working	0.9243	0.1794	0.9447	0.3299
	[0.2645]	[0.3837]	[0.2285]	[0.4702]
Income	6973	5344	5099	3635
	[24716]	[22156]	[13506]	[10581]
Observations	537109	537109	627114	627114

Notes: Author's calculations from the 1990 and 2000 Mexican Census. Standard deviations are in brackets.

Table 3: Female and Male Labor Supply Elasticities (IV1)

	Female[a]		Male[a]	
	1990	2000	1990	2000
	(1)	(2)	(3)	(4)
Regression coefficients				
Wife's wage	85.0469**	19.6218**	-5.1108**	-5.3030**
	[3.4656]	[1.9074]	[0.7366]	[0.7041]
Husband's wage	-28.6287**	-8.5358**	7.6115**	8.6003**
	[1.1558]	[0.7119]	[0.5661]	[1.0593]
Implied elasticities				
Wife's wage	2.8272**	0.6160**	-0.1149**	-0.1093**
	[0.1157]	[0.0599]	[0.0166]	[0.0145]
Husband's wage	-0.9517**	-0.2680**	0.1711**	0.1772**
	[0.0386]	[0.0223]	[0.0127]	[0.0218]
Instrumental variables				
Interact. Own Age*Educ	Y	Y	Y	Y
Spouse Age and Educ	N	N	N	N
Observations	463759	557171	537109	627114

Notes: [a] Control variables: own age, own education, dummies for region; dummies for one, two, or three or more children; and family size.

Robust standard errors in brackets

** p<0.01, * p<0.05

Table 4: Female and Male Labor Supply Elasticities (IV2)

	Female[a]		Male[a]	
	1990	2000	1990	2000
	(1)	(2)	(3)	(4)
Regression coefficients				
Wife's wage	55.5235**	20.4784**	-3.1329**	-3.3795**
	[3.1806]	[1.8970]	[0.7217]	[0.6747]
Husband's wage	-18.8668**	-8.8530**	6.0787**	5.6895**
	[1.0626]	[0.7083]	[0.5473]	[1.0123]
Implied elasticities				
Wife's wage	1.8441**	0.6430**	-0.0704**	-0.0696**
	[0.1059]	[0.0596]	[0.0162]	[0.0139]
Husband's wage	-0.6266**	-0.2779**	0.1367**	0.1172**
	[0.0354]	[0.0222]	[0.0123]	[0.0208]
Instrumental variables				
Interact. Own Age*Educ	Y	Y	Y	Y
Spouse Age and Educ	Y	Y	Y	Y
Observations	463759	557171	537109	627114

Robust standard errors in brackets

** p<0.01, * p<0.05

Table 5: Labor Supply Elasticities of Women with Young Children

	With Kids	
	1990	2000
Implied elasticities IV1		
Wife's wage	3.4514**	1.5053**
	[0.1980]	[0.1204]
Husband's wage	-1.085**	-0.5705**
	[0.0626]	[0.0441]
Implied elasticities IV2		
Wife's wage	2.4534**	1.4298**
	[0.1815]	[0.1196]
Husband's wage	-0.7719**	-0.5432**
	[0.0575]	[0.0438]
Observations	212297	221656

Robust standard errors in brackets

** p<0.01, * p<0.05

Table 6: Labor Supply Elasticities by Age Groups

	Age 25-34		Age 35-44		Age 45-54	
Cohort of birth	1956-65	1965-75	1946-55	1956-65	1936-45	1946-55
Census year	1990	2000	1990	2000	1990	2000
Implied elasticities IV1						
Wife's wage	3.3294**	0.6561**	2.3225**	0.6487**	1.5236**	1.1899**
	[0.1820]	[0.1011]	[0.1625]	[0.1015]	[0.3559]	[0.1984]
Husband's wage	-1.0390**	-0.2597**	-0.8364**	-0.2913**	-0.5942**	-0.5217**
	[0.0573]	[0.037]	[0.0567]	[0.0372]	[0.1283]	[0.0773]
Implied elasticities IV2						
Wife's wage	2.7374**	0.5604**	0.8840**	0.5901**	-1.4032**	0.2274
	[0.1762]	[0.0982]	[0.1396]	[0.1004]	[0.2411]	[0.1823]
Husband's wage	-0.8535**	-0.2249**	-0.3398**	-0.2701**	0.4493**	-0.1496*
	[0.0556]	[0.0361]	[0.0488]	[0.0368]	[0.0874]	[0.0712]
Observations	245211	274270	164927	210773	53621	72128

Robust standard errors in brackets
** p<0.01, * p<0.05

A Male Labor Supply

The male labor supply was estimated using more or less the same procedure than the female labor supply. Consider the following structural male labor supply model

$$\log\left(w_i^m\right) = \beta \log w_i^f + \Gamma X_{1i} + \varepsilon_i \tag{3}$$

$$h_i^m = \max\left[0, \theta^f \log w_i^f + \theta^m \log w_i^m + \Pi X_{2i} + u_i\right] \tag{4}$$

where w_i^m is the male's wage; w_i^f is the female's wage; X_i is a vector of exogenous variables which includes age, age squared, education, region dummies, and dummies for the number of children less than 5 and family size;[14] and h_i^f is the female's hours of work. In the case of men, however, we cannot restrict the estimation to the sample of husband's whose wives have a valid wage (as we did for females). This is due to the fact that only 30 percent of the females work, so we would be limiting our estimates to a very selected sample of males. So we had to impute the wage for all females using the first two steps of Wooldridge's (2002) procedure. In this way we obtain a measure of the wage, $\widehat{\log w_i^f}$, for all females that has been corrected for selection into work. We substitute this imputed wage into equations (3) and (4), and then using Wooldridge's three-step procedure estimate the following structural model

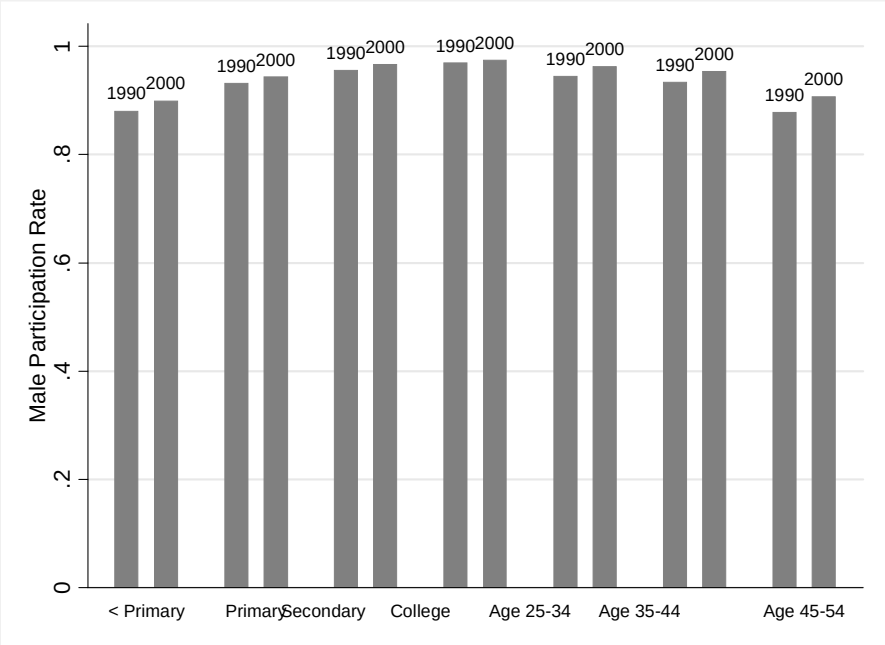
$$\begin{aligned}\log\left(w_i^m\right) &= \beta\widehat{\log w_i^f} + \Gamma X_{1i} + \varepsilon_i \\ h_i^m &= \max\left[0, \theta^f\widehat{\log w_i^f} + \theta^m \log w_i^m + \Pi X_{2i} + u_i\right].\end{aligned}$$

B Appendix of Tables and Figures

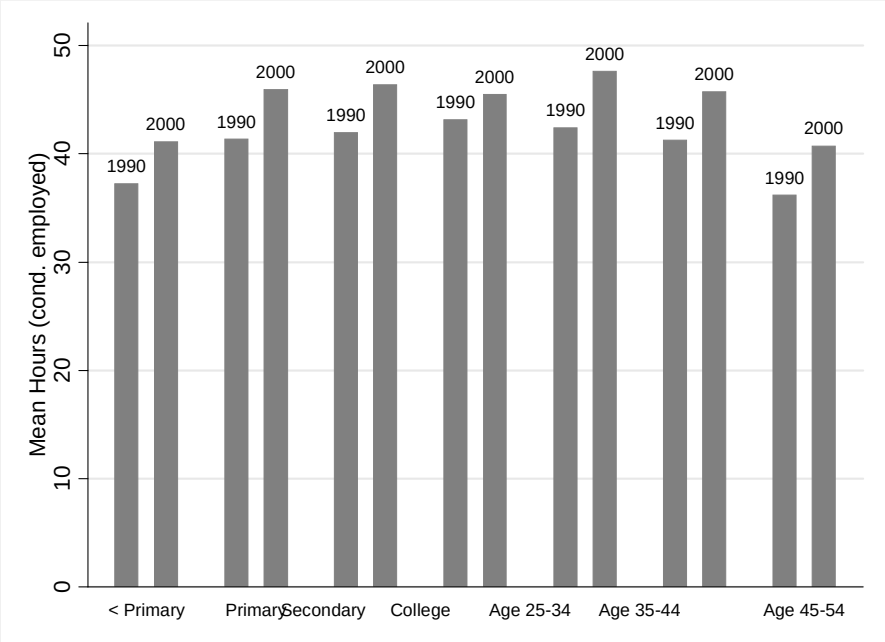
[14] We kept the children and family variables because the literature has found that they are significant in the male labor supply. See for example Lundberg and Rose (2002).

Figure B-1: Married Males Work Behavior

A.



B.



Notes: Author's estimations using 1990 and 2000 Census data.

Table B-1: Female Labor Supply

Dependent variable:	IV1		IV2	
Weekly hrs. of work	1990	2000	1990	2000
	(1)	(2)	(3)	(4)
Wife's wage (log)	85.0469**	19.6218**	55.5235**	20.4784**
	[3.4656]	[1.9074]	[3.1806]	[1.8970]
Husband's wage (log)	-28.6287**	-8.5358**	-18.8668**	-8.8530**
	[1.1558]	[0.7119]	[1.0626]	[0.7083]
Age	6.7405**	4.7614**	6.6889**	4.7494**
	[0.1822]	[0.1375]	[0.1824]	[0.1375]
Age^2	-0.0973**	-0.0637**	-0.0943**	-0.0636**
	[0.0025]	[0.0018]	[0.0025]	[0.0018]
Primary	8.3393**	5.4985**	12.7286**	5.3481**
	[0.6062]	[0.4511]	[0.5720]	[0.4494]
Secondary	32.3094**	19.4254**	38.0464**	19.0506**
	[0.7798]	[0.9149]	[0.7331]	[0.9102]
University	39.7959**	30.4631**	49.2510**	29.8869**
	[1.1967]	[1.3506]	[1.1110]	[1.3432]
Children under 5:				
One	-8.5214**	-10.5071**	-7.5652**	-10.5635**
	[0.3079]	[0.2510]	[0.3054]	[0.2508]
Two	-18.7518**	-19.2278**	-16.4863**	-19.3356**
	[0.5265]	[0.4656]	[0.5176]	[0.4652]
Three or more	-24.6526**	-25.6131**	-22.3970**	-25.7315**
	[1.2531]	[1.4158]	[1.2505]	[1.4149]
Family size	-3.2999**	-2.2893**	-3.4314**	-2.2802**
	[0.0880]	[0.0764]	[0.0878]	[0.0763]
Other controls:				
Region dummies	Y	Y	Y	Y
Constant	-330.0086**	-128.1070**	-273.6059**	-129.1217**
	[7.3463]	[3.3483]	[6.8924]	[3.3408]
Observations	463759	557171	463759	557171

Notes: The omitted education category is "Less than Primary". The regions are: Northern border, North-Central, Pacific, Central, South, and Mexico City.
Robust standard errors in brackets
** p<0.01, * p<0.05

Table B-2: Female Labor Supply (w/ higher-order terms of residuals)

Dependent variable:	IV1		IV2	
Weekly hrs. of work	1990	2000	1990	2000
	(1)	(2)	(3)	(4)
Wife's wage (log)	77.2389**	19.0454**	54.8365**	20.2197**
	[3.1885]	[1.8685]	[2.9758]	[1.8562]
Husband's wage (log)	-25.8348**	-8.3937**	-18.4926**	-8.8333**
	[1.0560]	[0.7046]	[0.9875]	[0.7003]
Age	6.5781**	4.7601**	6.5776**	4.7434**
	[0.1822]	[0.1375]	[0.1824]	[0.1375]
Age^2	-0.0944**	-0.0637**	-0.0927**	-0.0635**
	[0.0025]	[0.0018]	[0.0025]	[0.0018]
Primary	7.3605**	5.5592**	11.3156**	5.3490**
	[0.6455]	[0.4490]	[0.6143]	[0.4471]
Secondary	31.7535**	19.4255**	36.7141**	18.8951**
	[0.8063]	[0.9225]	[0.7660]	[0.9168]
University	42.7753**	30.6740**	49.8147**	29.8725**
	[1.0961]	[1.3424]	[1.0342]	[1.3335]
Children under 5:				
One	-8.4174**	-10.5088**	-7.6520**	-10.5876**
	[0.3068]	[0.2516]	[0.3050]	[0.2513]
Two	-18.2029**	-19.2529**	-16.4750**	-19.4045**
	[0.5170]	[0.4678]	[0.5110]	[0.4672]
Three or more	-24.3351**	-25.4751**	-22.5509**	-25.6346**
	[1.2513]	[1.4136]	[1.2495]	[1.4125]
Family size	-3.1287**	-2.2738**	-3.2911**	-2.2596**
	[0.0895]	[0.0769]	[0.0891]	[0.0768]
Other controls:				
Region dummies	Y	Y	Y	Y
Constant	-310.3183**	-126.0821**	-268.7869**	-127.4022**
	[6.7140]	[3.2341]	[6.3960]	[3.2259]
Observations	463759	557171	463759	557171

Notes: The omitted education category is "Less than Primary". The regions are: Northern border, North-Central, Pacific, Central, South, and Mexico City.
Robust standard errors in brackets
** p<0.01, * p<0.05

Table B-3: Male Labor Supply

Dependent variable:	IV1		IV2	
Weekly hrs. of work	1990	2000	1990	2000
	(1)	(2)	(3)	(4)
Wife's wage (log)	-5.1108**	-5.3030**	-3.1329**	-3.3795**
	[0.7366]	[0.7041]	[0.7217]	[0.6747]
Husband's wage (log)	7.6115**	8.6003**	6.0787**	5.6895**
	[0.5661]	[1.0593]	[0.5473]	[1.0123]
Age	0.6212**	0.5858**	0.6491**	0.6120**
	[0.0428]	[0.0451]	[0.0428]	[0.0452]
Age^2	-0.0112**	-0.0113**	-0.0115**	-0.0114**
	[0.0005]	[0.0006]	[0.0005]	[0.0006]
Primary	1.2542**	2.0150**	1.1856**	2.1955**
	[0.1077]	[0.1254]	[0.1090]	[0.1233]
Secondary	-1.2199**	-0.9587**	-1.0353**	-0.0757
	[0.1899]	[0.3527]	[0.1887]	[0.3386]
University	-2.9099**	-5.1559**	-2.3868**	-3.1428**
	[0.3160]	[0.7597]	[0.3101]	[0.7267]
Children under 5:				
One	0.4821**	0.7118**	0.4175**	0.5908**
	[0.0740]	[0.0873]	[0.0744]	[0.0865]
Two	0.7472**	0.9589**	0.6038**	0.7467**
	[0.1180]	[0.1497]	[0.1185]	[0.1483]
Three or more	0.2415	1.4613**	0.0898	1.1705**
	[0.2516]	[0.3812]	[0.2520]	[0.3797]
Family size	0.2141**	0.1531**	0.2179**	0.1556**
	[0.0201]	[0.0247]	[0.0202]	[0.0247]
Other controls:				
Region dummies	Y	Y	Y	Y
Constant	28.3368**	30.8080**	26.1905**	32.2739**
	[1.3412]	[1.0709]	[1.3407]	[1.0500]
Observations	537109	627114	537109	627114

Notes: The omitted education category is "Less than Primary". The regions are: Northern border, North-Central, Pacific, Central, South, and Mexico City.
Robust standard errors in brackets
** p<0.01, * p<0.05

Table B-4: Male Labor Supply (w/ higher-order terms of residuals)

Dependent variable:	IV1		IV2	
Weekly hrs. of work	1990	2000	1990	2000
	(1)	(2)	(3)	(4)
Wife's wage (log)	-19.5325**	-5.3577**	-16.6828**	-3.8893**
	[1.2389]	[0.6792]	[1.1880]	[0.6617]
Husband's wage (log)	21.6822**	9.3992**	18.8950**	6.9841**
	[1.1144]	[1.1091]	[1.0528]	[1.0757]
Age	0.2889**	0.5481**	0.2751**	0.5727**
	[0.0476]	[0.0458]	[0.0487]	[0.0460]
Age^2	-0.0076**	-0.0108**	-0.0072**	-0.0109**
	[0.0006]	[0.0006]	[0.0006]	[0.0006]
Primary	0.7773**	1.9870**	0.8774**	2.1346**
	[0.1082]	[0.1254]	[0.1086]	[0.1236]
Secondary	-3.5589**	-1.3199**	-3.0243**	-0.5511
	[0.2487]	[0.3801]	[0.2375]	[0.3683]
University	-7.9061**	-5.4512**	-6.7759**	-3.8401**
	[0.4685]	[0.7649]	[0.4422]	[0.7406]
Children under 5:				
One	1.0760**	0.7818**	1.0060**	0.6758**
	[0.0852]	[0.0907]	[0.0854]	[0.0903]
Two	1.9386**	0.8618**	1.7718**	0.7327**
	[0.1448]	[0.1419]	[0.1446]	[0.1419]
Three or more	1.1732**	1.6543**	1.0533**	1.3880**
	[0.2606]	[0.3867]	[0.2613]	[0.3853]
Family size	0.4279**	0.2119**	0.3910**	0.1981**
	[0.0226]	[0.0256]	[0.0221]	[0.0255]
Other controls:				
Region dummies	Y	Y	Y	Y
Constant	37.7613**	29.5838**	36.9428**	31.1086**
	[1.4849]	[1.1567]	[1.5293]	[1.1292]
Observations	537109	627114	537109	627114

Notes: The omitted education category is "Less than Primary". The regions are: Northern border, North-Central, Pacific, Central, South, and Mexico City.
Robust standard errors in brackets
** p<0.01, * p<0.05