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Abstract

This paper examines the impact of universal health coverage on cohabitation, marriage, and labor force participation. Economic gains from marriage when non-labor income increases among partners. I use the expansion of non-contributory health insurance in Mexico to test this. This insurance scheme, called *Seguro Popular* (SP), provides a minimum set of health benefits to the population not covered by formal social security. The rollout of SP started in 2002 across municipalities. This variation makes possible examine the effect of health insurance on marital status among workers. The analysis of this paper shows that non-contributory health insurance coverage has a significant negative effect on the probability of marriage among poor and low educated males and females, and a positive effect on the probability of cohabitation. SP, however, has no effect on labor force participation.

Keywords: Marriage, cohabitation, health insurance, Seguro Popular, Mexico.

Introduction

Marital trends of a country have major implications for economic performance. Gary Becker (1973) modeled marriage decisions and linked them with aggregated outcomes such as population growth, labor-force participation of women, income inequality and allocation of leisure. Following Becker (1973), scholarship has documented that parents' stable marital status has a positive effect on the formation of human capital of the off springs [Willis (1973, 1980, 1982), Becker (1974, 1976, 1981), Moffitt (1990, 1995); Schultz (1994)]. Similarly, the formation of cognitive and non-cognitive skills is directly related to family factors, particularly marriage [Cunha and Heckman (2007, 2008, 2009)].

Previous work on cohabitation and its effects arrives at starkly different conclusions in Europe and the US. In Europe, Svarer (2002) showed trends in marital status and their increase since 1960's in Denmark and Sweden. As a result of cohabitation, Svarer (2002) argues that failed marriages have decreased. Individuals decide to get married after a period of cohabitating. During this stage of a relationship, individuals get more information on their partners, so marriage is reached by stable couples. Children born from these marriages have good environments for the development of their skills since parents show lower rates of divorce. Thus, the European experience is compatible with Friedberg and Stern (2003) learning model.

Research on cohabitation in the US reaches the opposite conclusion. Scholars have found that, unlike Europe, in the US cohabitation has increased over time and marriage rates have declined [Bumpass and Lu (2000)]. Cohabitants that marry are more tolerant of divorce, therefore average duration of marriage is shorter. Axinn and Thornton (1992) use a panel dataset of mothers and their children from the Detroit metropolitan area. The data includes children interviewed at age 18 in 1980 and at 23 in 1985. They find that that people who cohabit were less committed to marriage are more likely to get a divorce. Similarly, Bumpass (1995) and Smith et al. (1996) find that marriages preceded by cohabitation are more likely to end in a divorce.

Bumpass and Lu (2000) also find a significant increase of cohabitation that includes childbearing. The reason behind this increase is the time extension of cohabitation. As time cohabitating extends, the probability of pregnancy increases, but the chances for marriage decrease. This instability of marriage has a direct effect on the quality of the childcare of the children and the formation of skills. Cunha and Heckman (2007; 2008) show the consequences of low quality marriages and parenthood in terms of school performance and likelihood of poverty when adult. In sum, cohabitation and marriage have a direct effect in the formation of human capital, however the conditions under which the effects are positive remain unclear.

The evidence regarding cohabitation in less developed countries is scant. Heckman et. al. (2010) show some evidence for the case of Mexico. They show that cohabitation is increasing, while marriage is decreasing. Along these lines, Heckman et. al. (2010) show the increase of the number of new births from parents who are cohabitating and the reduction in the number of children living under marriage. The prevalence of non-legal unions and cohabitation is higher in rural and semi-urban areas, where the population is younger and less educated on average [Quilodrán (2000)]. Other research has found similar results to the US experience, where there is a self-selection in cohabitation by those who are more tolerant to divorce. Cohabitating couples transit to legal marriages, but the overall duration of the unions is shorter [García and Rojas (2002)].

What explains these trends in cohabitation? What is the role of social policy on marriage and labor outcomes? Evidence on the effect of social and tax policy on the incentives of work and have children have being extensively studied in developed countries. Meyer and Rosembaum (1999, 2000) analyze AFDC and Food Stamp benefits, Medicaid, Earned Income Tax Credit (EITC) and other federal and state income taxes and find an increase in hours worked. Moffit, Raville and Winkler (1995) find significant numbers of cohabiters among recipients of AFDC and using survey results find that AFDC rules encourage females to cohabit. Moffit (1992) finds that AFDC "provides an obvious incentive to delay

marriage, increase rates of marital dissolution, delay remarriage, and have children outside of a marital union, all of which will lower the percentage of the population that is married". London (2008) examines determinants of single mothers living arrangements and their effect on mothers AFDC participation. She finds that AFDC and Food Stamp increase the propensity of mothers to cohabit, and decrease their probability of living with parents or sharing with others, relative to living independently. In the specific case of health benefits, Yelowitz (2009) finds that Medicaid's increases the probability of marriage by 10 percent after controlling for the outflows from marriage due to the independence effect -incentives to become divorced-, the estimated effect increases by 10 percent.

The recent expansion of social protection programs in several developing countries presents new opportunities to explore the determinants of cohabitation. The purpose of this paper is to contribute to the debate on how non-contributory health benefits affect marital decisions of beneficiaries. Mexico represents a good case given the size of its population and the fraction of population that is now covered by the two pillars of the new non-contributory social protection system, *Seguro Popular* (SP) and *Progresa-Oportunidades*. *Seguro Popular* is a health system that provides health benefits to the population not covered by social security through a formal insurance scheme. *Progresa-Oportunidades* is conditional cash transfer program (CCT). Both policies were rolled out in different municipalities at different times. This variation allows the identification of their effects on marital status and labor outcomes with panel data of municipalities. This paper shows for the first SP effects on incentives for cohabitation and its effect on labor force participation.

Using data on Mexican labor force surveys from 1995 to 2009, I analyze the effect the introduction of *Seguro Popular* on the probability of cohabitation, marriage, and labor force participation. The surveys, *Encuesta Nacional de Empleo* (ENE) and *Encuesta Nacional de Ocupacion y Empleo* (ENOE), have a similar structure of the US Current Population Survey. According to Heckman et.al. (2010), Barros (2009) and Azuara and Marinescu (2011) SP does significantly affect labor decisions of those included in the program, particularly on participation in the informal labor market. This paper shows evidence of how

4

universal health coverage has negative and significant effects on the probability of marriage and cohabitation. This finding is compatible with standard neoclassical theory, where the hypothesis is that an increase in non-labor income reduces individual's incentives to marry, since the gains from specialization are lowered.

I use different samples for estimating these effects. Among workers with less than nine years of schooling, *Seguro Popular* increases cohabitation by 2 percentage points. Conversely, SP decreases marriage in the same proportion. In the case of labor force participation, the results show no evidence of a significant effect of *Seguro Popular*.

This paper makes two key contributions to the literature. First, it provides comparable evidence to the US of the effect of health insurance on cohabitation, marriage and labor force participation. The results corroborate the findings in the US of negative impact of health insurance. Murasko (2008) analyzes the effect of spousal insurance coverage on married women's labor supply. He finds that spousal coverage has a negative effect on married women's labor supply. Cebi (2011) find smaller effects after correcting for selection and spousal sorting. These findings suggest that universal health provision should decrease incentives to marry, since individuals' gains from staying single could be higher than married. Second, this paper contributes to the debate on the impact of the social protection systems created in Mexico during the last decade and its effects on the economic outcomes [Levy (2008)]. The analysis on labor force participation and its small effect, show that social protection programs have a reduced effect on labor market decisions. This finding suggests that *Seguro Popular* may be welfare improving since it protects workers while having a minimal impact on labor supply decisions.

The remainder of the paper is organized as follows. Section II includes a description of the recent trends of marriage, cohabitation and labor force participation of females in Mexico. Section III provides a basic theoretical model based on Becker (1973). Section IV describes the data, Section V examine the results. Section VII concludes.

Model

This section describes a standard neoclassical framework of marriage/ fertility and the expected effects of increasing health coverage on the decision to cohabitate and having children. I use the basic family model of Becker (1981) and Willis (1973), which describes fertility choice and consumption, not considering labor decision. The model first assumes that individuals do the following maximization process.

$$\max U = U(n, q, x_s) \tag{1}$$

$$\text{s.t. } x_s = x - x_c \tag{2}$$

$$q = f\left(\frac{t_c}{n}, \frac{x_c}{n}\right) \tag{3}$$

Households maximize utility that depends on number of children (n) raised with "quality" (q). A composite good is represented by (x) and can be divided between adult consumption (x_s) and consumption to raise children (x_s). The function of quality is determined by the time devoted by the wife to the children (t_c) and resources used for this purpose. So females can divide their time at home or at work:

$$t^f = (t_c + t_w) \tag{4}$$

We are assuming that only females raise children. The labor income of each household can be obtained by labor income of the father and the labor income of the mother (time in the labor market times the wage). We can add assets of the household to the total labor income of the father in one term (F) and define an expression for the full income of the household as

$$Income = wt_w + F = w(t_c + t_w) + F \tag{6}$$

6

We can reorganize terms and express the time devoted to raise children in terms of the market wage and the price of the consumption good.

$$\phi_x(x_c + x_w) + wt_c = \phi_x x_s + (\phi_x x_c + wt_c) = I \tag{7}$$

The income required to raise children is determined by the resources of the consumption good required for doing so, and the time spent by the mother, expressed in labor market prices. Under this definitions we can then define a shadow price of children nq as ϕ_c, which describes both costs (mother's time and material) and define the maximization of the household utility as:

$$\max U = U(n, q, x_s) \tag{1}$$

$$\text{s.t. } \phi_x x_s + \phi_c nq = I \tag{2'}$$

The first order conditions of the maximization can be expressed as follows:

$$U_q = \lambda n\phi_c = \lambda p_q \tag{8}$$

$$U_n = \lambda q\phi_c = \lambda p_n \tag{9}$$

$$U_x = \lambda \phi_x \tag{10}$$

This allows us to express the demand for the number children, their quality and the consumption of the composite good as follows:

$$q(p_n, p_q, \varphi_x, I) \tag{11}$$

$$n(p_n, p_q, \varphi_x, I) \tag{12}$$

$$x_s(p_n, p_q, \varphi_x, I) \tag{13}$$

7

According to this standard model, the price of children increases as female wage rate increases. Similarly, the demand for children is also increasing of the husband income: as it increases, the demand for children also increases –assuming children as normal good-.

This framework is useful to analyze the effect of free health coverage not linked to labor status on demand for children and marriage. As explained in the next section Mexican *Seguro Popular* (SP) can be considered as a non labor income, included in F. Therefore, all other things equal, the inclusion of SP should have a positive effect on having children. It also affects the quality of children. As expressed in the previous demands, the demand for quality of children is increasing in Income. So, as non labor income increases, the demand for both, number and quality, also increase. As explained by Becker (1973), this reduces the complementarily of males and females in the production of children over time.

Following his notation, we have that a necessary condition for marriage is that the maximum output of single male and females are strictly lower or equal to their incomes when married. In other words:

$$m_{mf} \geq Z_{m0} \tag{14}$$

$$f_{mf} \geq Z_{0f} \tag{15}$$

Z_{m0} and Z_{0f} represent maximum output of single males and females, respectively. m_{mf} and f_{mf} represent their incomes when married. So, the increase of non labor income derived from the *Seguro Popular* could change this condition.

$$m_{mf} \gtreqless Z_{m0} + SP \tag{14'}$$

$$f_{mf} \gtreqless Z_{0f} + SP \tag{15'}$$

Demographic trends, Cohabitation, Marriage and Labor Force Participation in Mexico.

Demographic Trends

Mexico is experiencing three major transitions: demographic, epidemiologic and social. Total population significantly increased between 1970 and 2010, going from 48 million to 112 during the period (Figure 1). This increase was derived from a permanent fall of birth and death rates (Figure 2 and Figure 3), and created a population bulge. Population growth has also being accompanied by an accelerated urbanization process of the country, mainly from migration from poor regions to medium and large cities (Figure 4).[1]

The rapid population growth occurred with a change of the age structure, and it is expected to continue during the two decades. There is currently a permanent decrease in the ratio of population not economically active. The official projections shows the dependency ration will fall until 2030 as youth population also decreases (Figure 5). Today the majority of the population is relatively young, but given projected life expectancy, the number of people over 60 years of age will increase in absolute and relative terms during a period twenty years. Females are now having lower children (Figures 6 and 7). This will change the structure of labor markets and the social security systems, given the relative decrease of economically active population with respect to workers in the age of retirement.

The Mexican population is mainly organized in familiar households. According to the Census 2010, there are 112 million people living in 28.2 million households. 98% of the population lives in groups where the members have a family tie with the head of the household. Only 2.3% members of households do not have familiar tie with the head.

There composition of the household head has significantly changed during the last 20 years. Households headed by a male decreased from 82.7% to 75% during this period (Figure 7). The nuclear household this proportion is 83% and 17%, while non-nuclear is 67.6% y 32.4% respectively. The average age of male

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[1] National Population Council. http://www.conapo.gob.mx

head of household is lower than female heads: 67% of total households are headed by a male younger than 50 years. Nuclear families are mainly males between 20 and 49 years (55.3%). The non-nuclear families the head is older than 40 years (73.3%). Female head of households are between 30 and 49%. Households with head of household older than 65, women represent 12.5%.

Cohabitation and Marriage

The demographic transition is also reflected in the marital arrangements of the population. During the last 15 years there has been a sharp increase in the number of people who decide to cohabitate with a partner, and a sharp decrease in the marriage. As it is shown in Figure 9, the married population aged between 15 and 70 decreased from 61 to 51, 64 to 55, and 58 to 48 percent for all the population, males and females, respectively. Restricting the analysis to population with less than 30 years, the total reduction in percentage points is larger: it goes from 48 to 35, 46 to 34 and 50 to 36 for total, male and female populations respectively.

The increase of cohabitation during the same period is remarkable. As shown in Figure 10, cohabitation for the total population almost doubled between 1995 and 2010 going from 6.7 to 11.5 percent. In the case of males it increased from 7 to 12 and for females 6.6 to 11 percent. Cohabitation among young cohorts is significantly higher. Male population less than 30 years old that declared to cohabitate increased from 7 to 14 percent. In the case of female population increased from 8.7 to 15.4 percent.

The level of cohabitation of young females is significantly higher for younger cohorts, while it completely changes for older ones. This has a significant effect on the newborns. More Mexican children are born into adverse environments during the last decades (Figure 11). Heckman et.al. (2010) describe how the increase in cohabitation has being accompanied by an increase of births out of wedlock in single female-headed households. The rate of divorces of for females in reproductive age has doubled during the last twenty years (Figure 12 and Figure 13). It is expected that these trends affect the formation of human capital of newborns. Cunha and Heckman (2007; 2008) show how family composition has a direct effect

on determining outcomes of children. The mechanism is directly related to the wealth and time invested by members of the household on parenting that determines of cognitive and non-cognitive skills of children. Cunha and Heckman (2009) show how it is not only resources but time and quality of parenting have a key role in the formation of human capital.

Trends of marital status in Mexico could be an indicator of lower quality of parenthood and the consequences in the formation of cognitive and non-cognitive skills of new generations. Cunha and Heckman (2007; 2009) state that cohabitation can is associated with instability influences for child emotional development and maternal stress. This directly related connected to the increase of the relative and absolute number of females who are head of household. They generally this group of females work longer journeys than males. The permanent reduction of the household size in addition to the increase of cohabitation, divorces and single mothers are factors that increase the vulnerability of new generations.

Young mothers have less disposable hours for parenting, which directly affects the formation of skills. As it is shown in

Figure 14, between 1995 and 2010, the ratio of hours of work of females to males increased from 48 to 58. This coincides with the introduction of *Seguro Popular* in the country. The expansion of social protection programs could be a good measure to reduce this vulnerability. However, as stated in the previous model, it could reduce the incentives for marriage and consequently could incentivize females to cohabitate.

Demographic Transition and the Creation of a New Social Protection System

The demographic and social transitions in Mexico have implicated major challenges for Mexican authorities. The two main providers of social security in Mexico *Insituto Mexicano del Seguro Social* (IMSS) and *Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado* (ISSSTE) only covered half of the population by 2000. This was a result from the evolution of the social security implemented in 1943, when IMSS was created. The system was designed with the idea that industrialization would expand formal employment and consequently all population would be covered by social security. ISSSTE was covered with the same structure but only focused on workers of the public sector.

In 2002 the Mexican federal government introduced a pilot program called *"Programa de Salud para Todos"* known as *Seguro Popular de Salud* in order to provide a minimum set of health services to the entire population, particularly those individuals not covered by social security. The strategy was designed to reduce vulnerability to catastrophic and impoverishing health expenditures of the population not covered by IMSS or ISSSTE, thus reducing inequalities of basic health opportunities. The evidence of this program was the base to create the System of Social Protection in Health in 2004.

Popular Health Insurance or *Seguro Popular* (SP) is voluntary. It subsidizes an explicit set of health interventions and it is the mechanism used to reach universal health coverage of the Mexican population by 2011. The main requirement to be eligible for the program is not being insured by health institutions serving the formal sector (mainly IMSS and ISSSTE), either because one is an informal worker, is self-employed, or because one is not economically active.

The provision of the services relies on state governments. The total number of beneficiaries in the system and the corresponding funds to the states is defined by both levels of governments. Since 2004, federal and state health authorities set affiliation targets in order to reach universal health coverage by the end of 2011. State health officials define the affiliation process. *Seguro Popular* has been introduced in all 31

states and Distrito Federal. Total expenditure and coverage differ widely among states. Today SP package includes 275 medical interventions, which go from routine check-ups to third level surgeries.

Prior research on the effects of *Seguro Popular* has mainly focused on its effect on health outcomes and expenditures [Barros (2009); Gakidou et al (2006); Galarraga et al (2010); King et al (2009)]. There is a current debate on its effect on increasing informality. Santiago Levy (2008) claims a large effect of in the increase of informality across the country. However, Campos-Vasquez and Knox (2008) and Barros(2009) Heckman, Arias, Azuara, Bernal and Villareal (2010), and Azuara and Marinescu (2011) little evidence of this.

None of these studies have analyzed other economic and social effects of the new health system. This paper shows for the first time how the strategy across the country affects the trends on the demographic transition, particularly on the marital arrangements. This paper shows the effect of SP cohabitation, marriage and labor force participation.

Data

The data of this paper is based on Mexican censuses and labor surveys published by *Instituto Nacional de Estadistica y Geografia* (INEGI). Information of *Seguro Popular* was provided by the *Comision Nacional de Proteccion Social en Salud* (CNPSS), the federal agency that coordinates the affiliation and expansion of the program across the country. The geographical unit of information is the municipio, and the information on labor is at individual level.

The Mexican Labor Surveys provide homologated series of information on employment and occupation of the national and state population, and its demographic and economic characteristics. The period 1995-2004 is based on National Employment Survey (ENE) and for the period 2005-2009 is based on National Survey of Occupation and Employment (ENOE). The surveys are taken at household level. Each person is interviewed for five consecutive quarters and then replaced by a new representative unit of analysis.[2] This paper only includes the first interview of every individual. This allows valid comparisons across time and avoids the attrition problems. Each individual declares their marital status, which has been coded the same way all the time. The analysis is based on those who declared being married or cohabitating.

Additional variables used in the analysis are schooling measured in years of schooling, age, gender and the total number of children living in the dwelling. A dummy variable head of household is included to characterize those who declare of being so. Finally, I include the variable number of doctors per capita at state level. This observable variable is closely related to the provision of the benefits of SP, since this system provides the funds to hire more doctors in order to provide the services to the covered population.

Table 1Table 1 includes the summary statistics of all variables. Note that 50 percent of the population declared being married on average during the period of analysis. The average cohabitating is 8%. The sample is restricted to population aged between 15 and 70 years, with an average 38 years. 62 percent are

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[2] For more details see INEGI (2007), a comprehensive description of the surveys.

active and 60 percent employed. The average years of schooling is 6.2. Finally, the average number of children in the households is 2.88.

Empirical Strategy

The analysis includes probit models for to determine the effect of the introduction of *Seguro Popular* on marriage, cohabitation and labor force. It also includes OLS estimatons for hours of work. The first set of models use two different specifications.

$$probit\left(Y_{ihjt}\right) = \alpha + \delta SPop_{jt} + \theta_j + \phi_t + X'_{ijht}\beta_1 + H'_{jht}\beta_2 + S'_{iht}\beta_3 + \varepsilon_{ihjt} \tag{25}$$

$$pr\left(Y_{ihjt}\right) = \alpha + \delta_1 SP_{jt-4} + \delta_2 SP_{jt-3} + \delta_3 SP_{jt-2} + \delta_4 SP_{jt} + \delta_5 SP_{jt+1} + \delta_6 SP_{jt+2} + \theta_j + A + \varepsilon_{ihjt} \tag{26}$$

$$A = \phi_t + X'_{ijht}\beta_1 + H'_{jht}\beta_2 + S'_{iht}\beta_3$$

The sub-indices are referred to: i for the individuals; h denotes the household; j the municipio and t the year of interview. Y denotes any of the three outcomes of interest (cohabitation, marriage and labor force participation). δ is a dummy variable if the municipio where the individual lives has been covered by *Seguro Popular*. θ_j denotes a municipio effect; ϕ_t is the year fixed effect. X denotes individual characteristics described in the previous section, including age, gender, years of schooling. H describes household characteristics, including the number of children in the household. S denotes the economic sectors used by INEGI to characterize the occupation of the subject and ε represents the idiosyncratic error term with the standard assumptions (man zero and constant variance).

Equation (25) show the specification using as dependent variables marriage, cohabitation and labor force participation. The parameter of interest δ and describes if the introduction of SP affected the levels of these variables. A caveat of this specification is the presence of trends of the dependent variables. To avoid, equation (26) includes the effect four years before and two years after the introduction of the SP,

restricting the sample to a balanced panel of municipalities. Tables show the results of these probit models. All include municipality fixed effects and report robust standard errors clustered by municipality. I include 5 different samples to be compared. These are: (1) All population; (2) only head of households; (3) females head of household; (4) population with less than 9 years of schooling; and, (5) females with less than 9 years of schooling with children.

Table 2 shows specification of equation (25) using cohabitation ad dependent variable. Sample 1, all population, estimates show that *Seguro Popular* has a positive and significant effect on cohabitation. Column 1, without controls, the introduction of SP show an average increase of 15 percentage points, while Column 2, with all controls, show an average effect of 1.7 percentage points. The second sample is restricted to heads of household only. The estimation with no controls show a positive effect on cohabitation, but once controls are included the effect is zero and no-significant. This does not change restricting the sample only to females who are head of household, included columns 5 and 6. When the sample is restricted to population with lower levels of education, less than the official obligatory level of 9 years, the effect is positive and significant. In the case of all, males and females, the effect is 17 percentage points higher and 2.1 when we include controls. Restricting only females the effect is 27 percentage points and 1.7 respectively.

The results suggest less educated workers are more sensitive to the effect of *Seguro Popular* on their marital status. Workers in the lower part of the education distribution are more likely to react to the introduction of *Seguro Popular* because they would provide health benefits members of the household without any restriction, like the imposed by social security. The value of health benefits could facilitate the decision to start a new household with a different person with no need to be covered in the costly formal sector. In general, the wage differential of this population is smaller, so the provision of free health services could make marriage less attractive, as stated in the model

To see if these effects are driven by trends of marital arrangements, Table 3 examines cohabitation around the introduction of *Seguro Popular*. Specifically, cohabitation levels up to four years before and two years after the introduction of the program and we restrict the sample to a balanced panel of municipalities. The same controls are included to account for other confounders. Estimations are referred to the relative to the year prior to the introduction of *Seguro Popular*. There is a significant jump in the propensity to cohabitate after the introduction of *Seguro Popular* in the municipio in all cases. Two and three years prior to the introduction of the program, the propensity to cohabitate was significantly negative, and there is a change in the trend. So the evidence supports a significant impact of the program in the second (year 1) and third year (year 2) after the introduction is higher than in the first year. The magnitudes for the first three samples (columns 1-6) are similar, while for the remaining 2 it is higher. This means that poorer workers –with less than 9 years of schooling- are more sensitive to the benefits of SP and are more likely to increase their chances of cohabitation.

The analysis of marriage included in Table 4 is complementary to the analysis of cohabitation. It contains the same specification of Table 3 and the same samples. The estimations have the opposite signs to the estimations of cohabitation. Periods previous to the introduction are positive and negative after its introduction. However, none of the three estimations that include municipio and year fixed effects (columns 2, 4 and 6) are significant. On the contrary, the estimation for population with less than nine years of schooling the estimations remain significant with the same signs. This reinforces the idea that that poor individuals are less likely to marry after the introduction of *Seguro Popular*. This confirms the theoretical hypothesis showed in the model, where individuals who receive a non-labor income would reduce their incentives to marry. Poor people covered by *Seguro Popular* are the ones who would be more likely to reach to the benefits provided by the program.

Conclusions

This paper contains an analysis of the impact of the System of Social Protection in Health, called *Seguro Popular*, on cohabitation and marriage. The estimations show that health benefits have a significant and positive effect, and negative and significant effect on marriage on cohabitation poor and low educated population.

This suggest that the theoretical hypothesis proposed by the basic model of Becker (1973) of smaller difference in wages increase incentives of individuals to remain single, or decide not to get married. The required condition to marry (individual earnings as married higher than single) could be violated by those at the margin. The coverage of free health services can reduce this conditions for those located in the margin - those in the lower part of the wage distribution are more likely to react to this benefit-. In other words, the expansion of has an impact on impact on the marriage market of poor and low educated workers. The estimations show significant increase in cohabitation among all individuals, with a larger magnitude for people with less than nine years of schooling. The size of the impact remains is around 2 percentage points on average. When the analysis includes the periods before and after the introduction of the SP, we find a positive effect of the program on the increase of cohabitation for all workers, and negative for marriage of low educated ones. These findings contribute to the literature on the impact of health insurance provision on family structure, a literature with similar results for the US. Providing health insurance increases the chances of unstable family relations..

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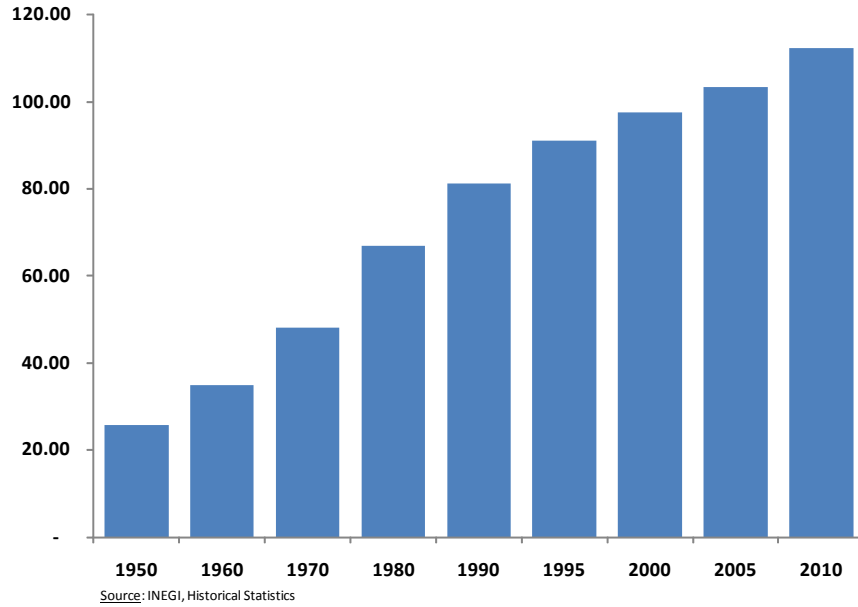## Figure 1

Total Population in Mexico. 1950-2010

Source: INEGI, Historical Statistics

Figure 2

Births per 1000 People. 1930-2009

Sources: INEGI. Historical Statistics. Censuses 1990 and 2000. Partial censuses 1995, 2005.
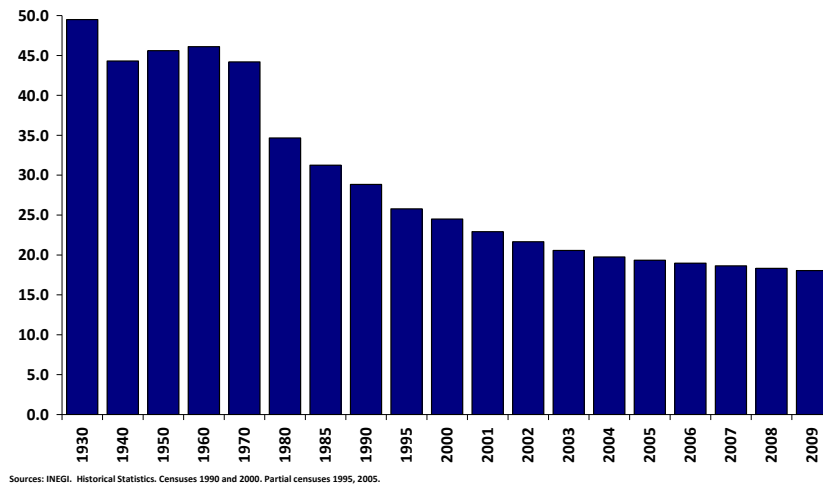
Figure 3

Natural Rate of Population Growth
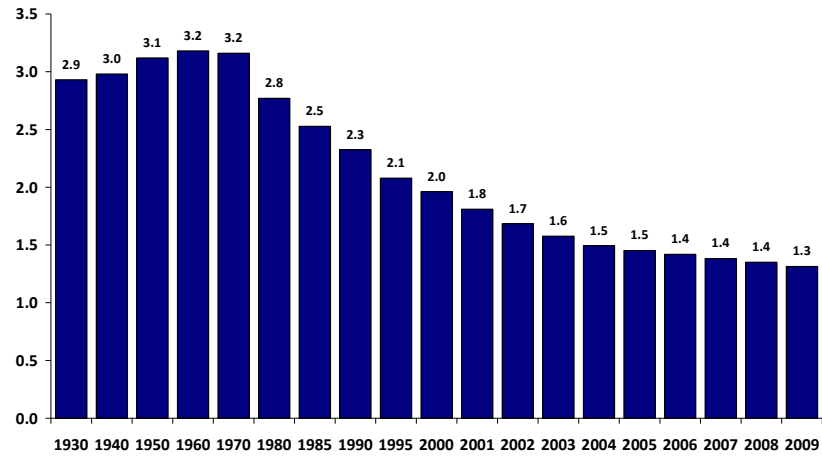
Figure 4

Distribution of Urban-Rural Population
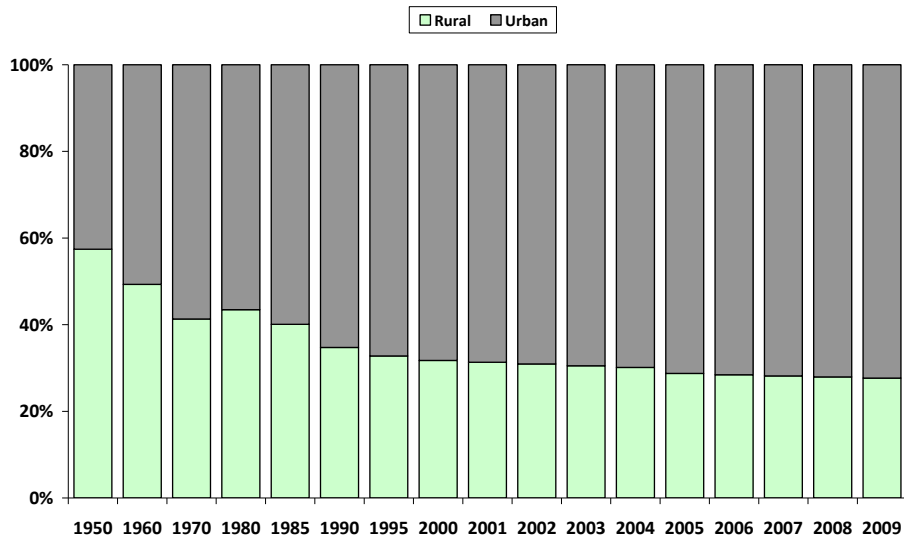
Figure 5

Dependency Ratio

Dependency Ratio

Sources: INEGI. Historical Statistics. Censuses 1990 and 2000. Partial censuses 1995, 2005.
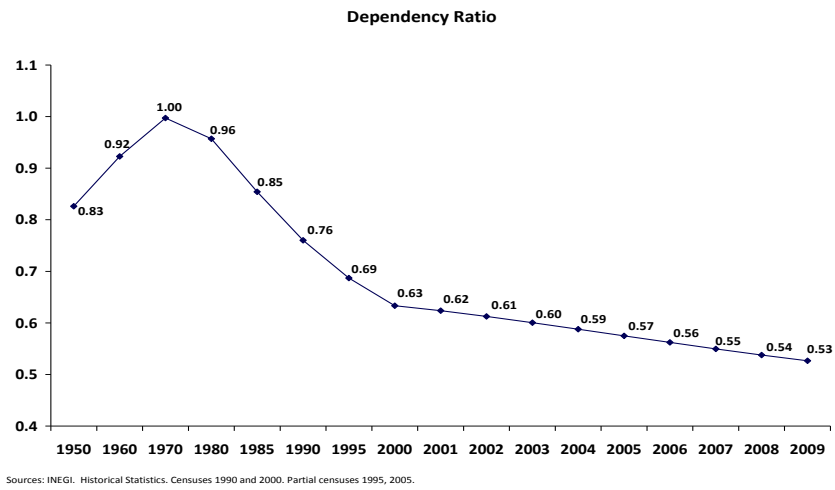
Figure 6

Children per Women

Source: INEGI.
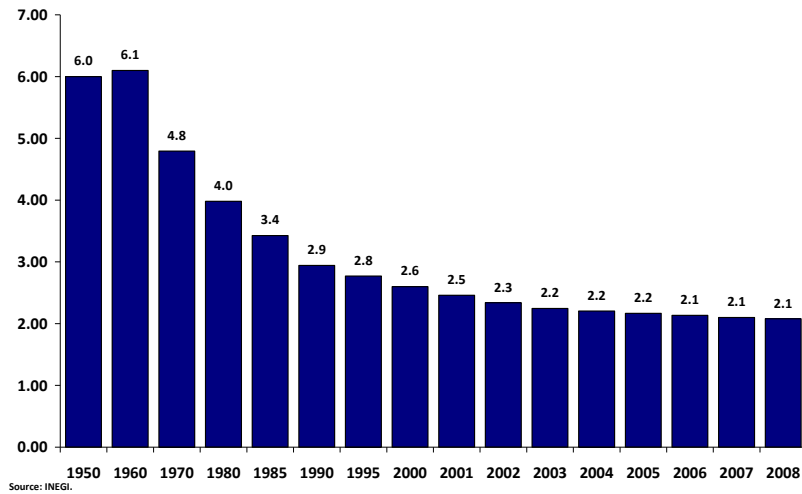
Figure 7

Distribution of Households by Gender of the Head (millions)

Source: INEGI, Population Censuses 1990, 1995, 2000, 2005 and 2010
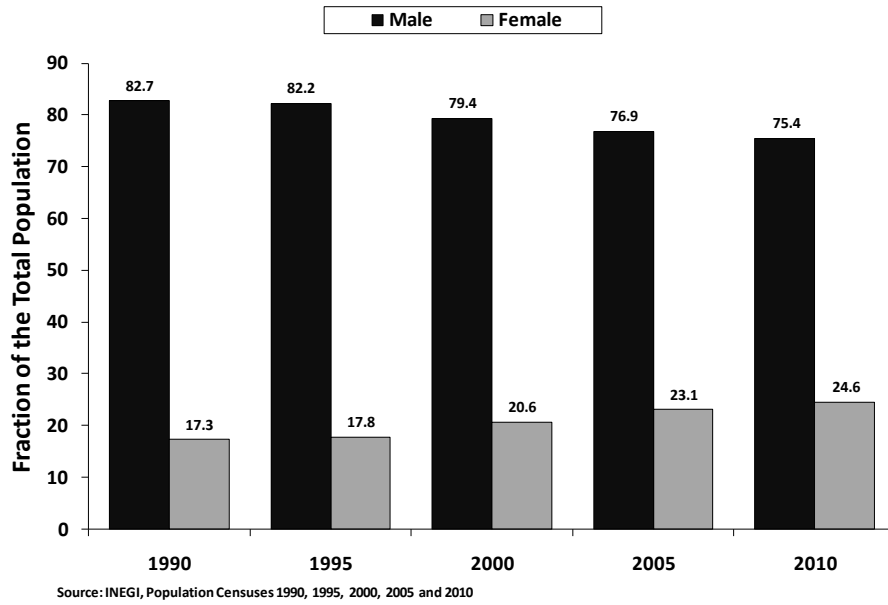
Figure 8

Percent of Households Headed by a Female Not Married

Source: Author's estimations using ENIGHs 1984 - 2008

27
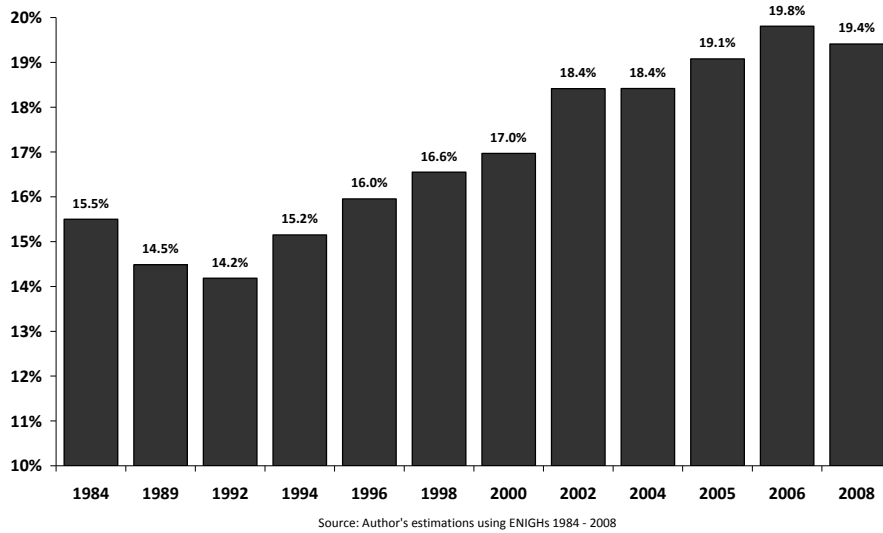
Figure 9

Trends of Marriage in Mexico. 1995-2010

Married Population aged between 15 and 70

■ Males   ▲ Females

Source: Author's estimation using ENE and ENOE 1995-2010

Married Population aged between 15 and 30

■ Males   ▲ Females

Source: Author's estimation using ENE and ENOE 1995-2010

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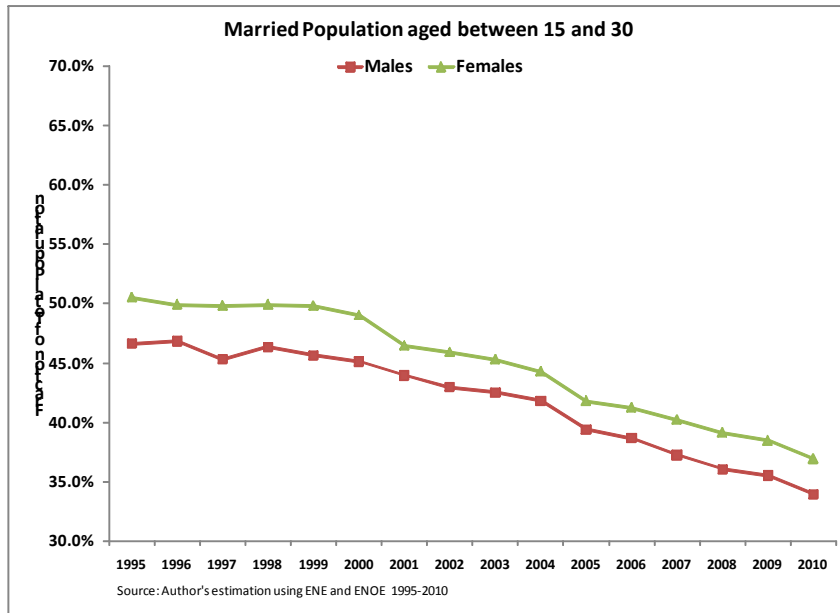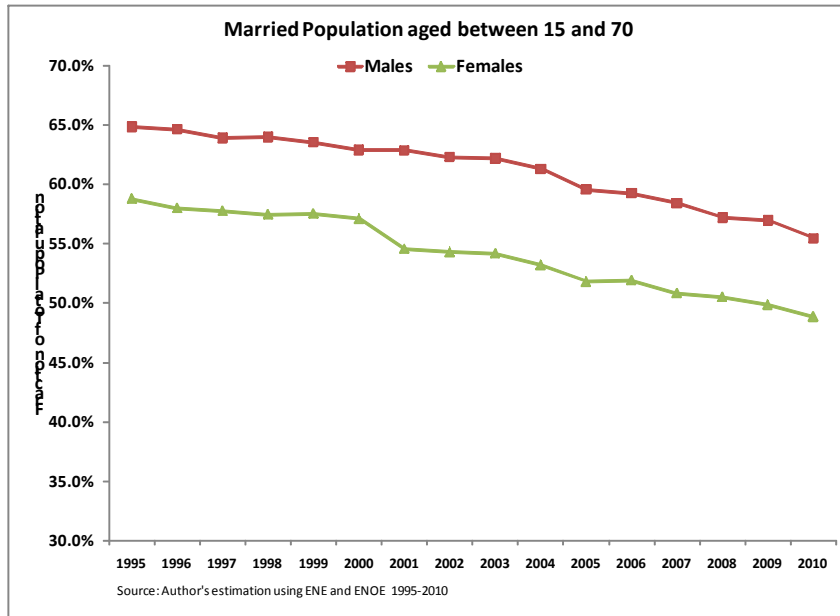
Figure 10

Trends of Cohabitation in Mexico. 1995-2010

Cohabitating Population aged between 15 and 70

◆ Males   ✕ Females   ── Linear (Males)   ----- Linear (Females)

Cohabitating Population aged between 15 and 30

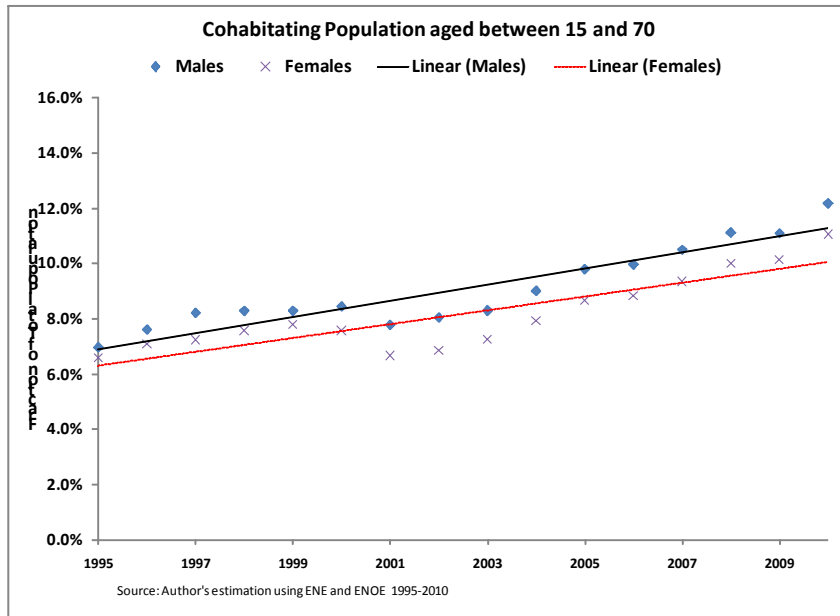◆ Males   ✕ Females   ── Linear (Males)   ----- Linear (Females)
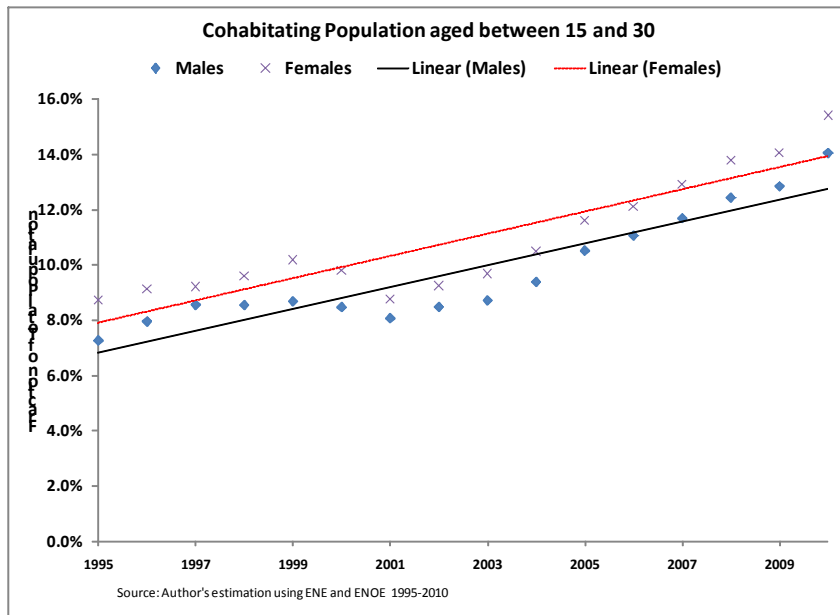
Figure 11

Registered births by Marital Status of the Mother

Source: INEGI.
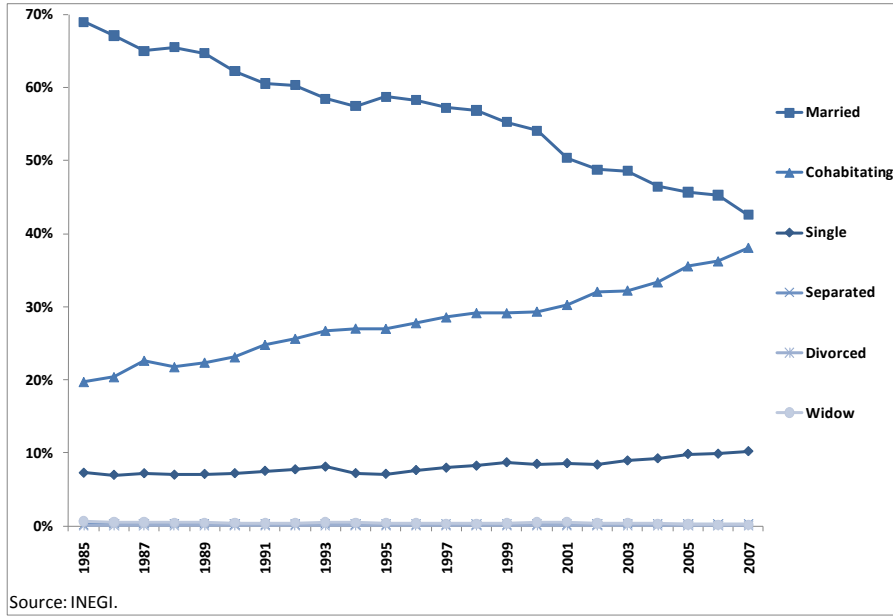
Figure 12

Fraction of the Female Population with One or more Divorces
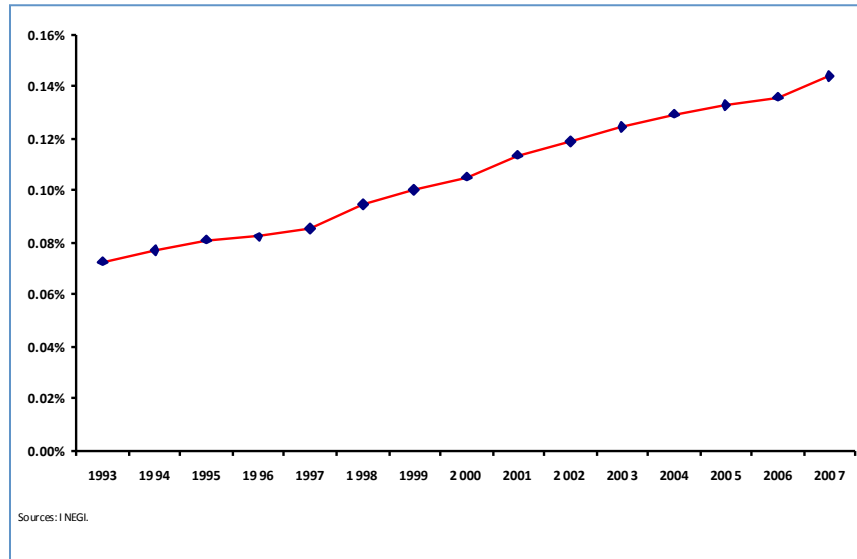

Sources: INEGI.

Figure 13

Total Annual Divorces by Duration of Marriage in Years
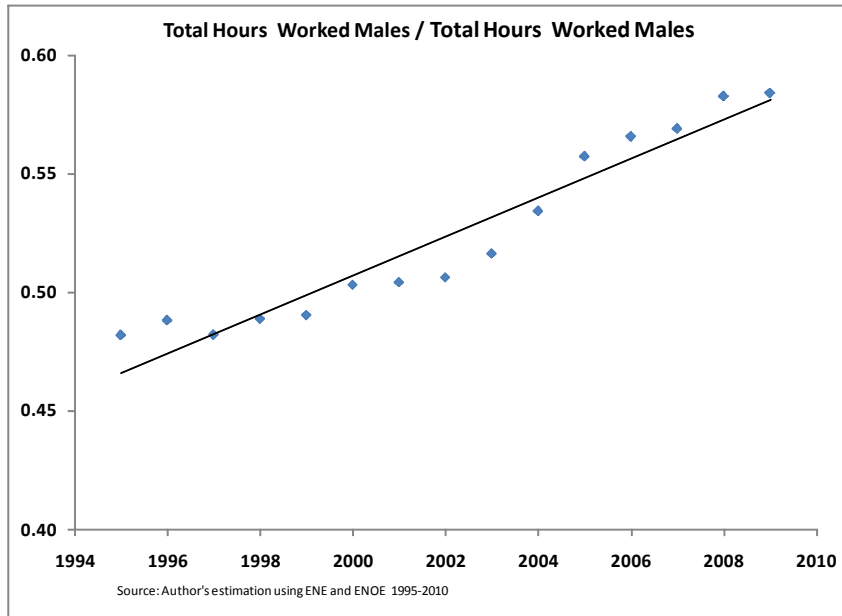

Source: INEGI.
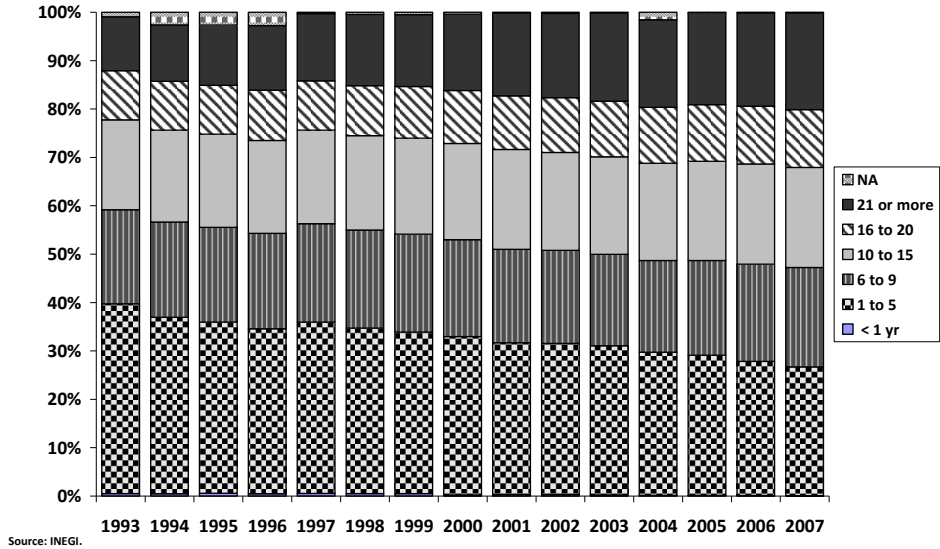
Figure 14

Convergence of Male –Female Labor Conditions

Total Hours Worked Males / Total Hours Worked Males

Source: Author's estimation using ENE and ENOE 1995-2010

Average Hourly Wage Differential Males - Females 1995-2010

Source: Author's estimation using ENE and ENOE 1995-2010
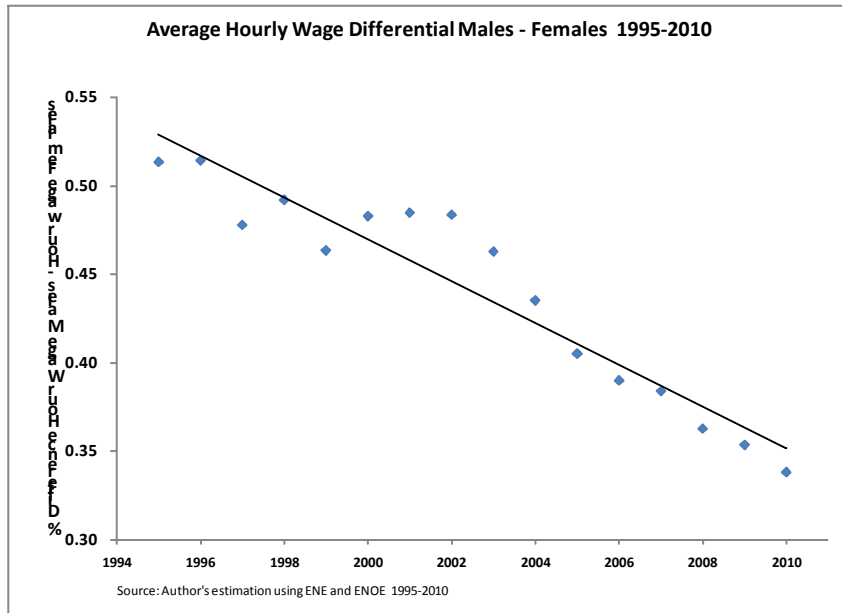
Table 1

Summary statistics

Variable	Obs	Mean	Std. Dev.	Max	Min
Cohabitate	1745542	0.08	0.28	0	1
Married	1745542	0.49	0.50	0	1
Employed	1745542	0.60	0.49	0	1
Active	1745542	0.62	0.48	0	1
Years of Sch.	1744753	6.23	6.18	0	24
Age	1745542	34.80	14.10	15	69
Gender (Male=1)	1745542	0.47	0.50	0	1
Children in Household	1745542	2.88	3.41	0	44
Hospitals pc	1745542	0.00013	0.00012	0	0.002
Economic Sector					
Construction	1745542	0.05	0.22	0	1
Manufacture	1745542	0.11	0.32	0	1
Commerce	1745542	0.13	0.34	0	1
Services	1745542	0.27	0.45	0	1
Other	1745542	0.03	0.17	0	1