Determinants of women's hours worked in Mexico: a pseudo-panel approach (2005-2010)

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Abstract

The hours worked by Mexican women depend not only on wages and individual characteristics, but also on factors related to household structure, which generate incentives for women to restrict their hours of paid work. This study uses a pseudo-panel containing five million observations from the National Survey on Occupation and Employment, for 2005-2010. Different age cohorts of the female working population are analysed along with a pseudo-panel model that measures the sensitivity of women's hours worked to wage variations and factors related to household structure, such as the availability of help in the home and the presence of children. It is found that women's hours worked increase when the household contains another adult woman, but decrease in the presence of children or a male adult.

Keywords

Women, women's employment, hours of work, measurement, econometric models, cohort analysis, Mexico

JEL classification

J21, J12, J16, C33

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I. Introduction

Figures published by the Organization for Economic Cooperation and Development (OECD) show that Mexican women have been very slow to join the labour market in recent years, with their participation rate rising from 36.67% in 2005 to 38.32% in 2012. The empirical literature on various countries frequently attributes this trend to the dynamic of wages and individual characteristics. Nonetheless, no in-depth analysis has been made of the potential effects of other cultural, social and demographic factors on women's hours worked.[1] The central hypothesis of this study is that, aside from economic factors, household structure can also generate incentives for women to reduce their labour market participation. This is because women choose not only how many hours to allocate to paid work, but also the amount of time they will devote to producing household goods and care for family members —roles traditionally assigned women which compete with the time they spend in labour market activities (Acosta, Perticará and Ramos, 2006)—. For example, the presence of several small children in the household could create incentives for the woman to give up paid work and devote her time to care, owing to women's cultural and social roles, the lack of help in the household, and the shortage of public care services. In this situation, public policies need to be designed and implemented to free up part of the time that women spend on domestic and care activities in the home, to enable them to undertake paid work if they so wish. This generally means promoting policies that help reduce the social, cultural or demographic barriers that may restrict women's hours worked and their opportunities for advancement.

The target population of this study consists of women between 12 and 65 years of age. The determinants of hours worked were calculated using the pseudo-panel econometric technique, with a birth-cohorts approach. The database used includes about 5.2 million observations and contains information from the National Survey on Occupation and Employment (ENOE) spanning the third quarter of 2005 to the second quarter of 2010 (INEGI, n/d). In addition, elasticities were calculated for the sample using different estimation methods to ensure the statistical robustness of the results. The previous literature has no study of the effects of household composition on women's hours worked, based on such a large sample and using pseudo-panel econometric methods to increase the reliability of the estimated determinants, as was done in this study for Mexico (Deaton, 1997).

The results suggest that household structure affects the number of hours that women supply to the labour market. Firstly, there is more time available for paid work when there is another woman over 14 years of age in the household. This could represent unpaid help in domestic chores and household care, and would result in an increase in the number of hours available to supply to the labour market. Secondly, the presence of children has a negative effect on hours worked, because caring for them can put major demands on women's time (Arceo-Gómez and Campos-Vázquez, 2010). Consequently, household structure is an important determinant of the number of hours women have available for paid work. This could be explained in terms of the needs of household members constraining women's labour market decisions.

This article is divided into five sections including this Introduction. Section II makes a review of the existing literature and finds that previous research has suggested that household structure could affect women's hours worked. Section III puts forward empirical evidence at the cohort level on the average number of hours per week that women in Mexico spend on paid work. It also shows how hours worked vary with respect to household structure. Section IV sets out the results obtained from the pseudo-panel model and with different estimators, which guarantee the robustness of the results; and the fifth and final section offers a few final comments.

[1] Throughout this text, the term "hours worked" refers to the number of hours women devote to paid activities.

II. Previous evidence on female labour market participation and how it relates to household structure

The analysis of the factors that determine women's labour market participation has gained considerable importance in recent years. Domínguez and Brown (2013) make an in-depth study of the role of gender differences in labour market participation in Mexico. The key conclusions of that study stress that the presence of children and older adults in the household could affect a woman's decision to take on paid work, either from home or outside. The authors also suggest that paid work from home is viable in Mexico because care tasks, traditionally assigned to women, could make it difficult for women to participate in the formal labour market. Nonetheless, a decision to undertake paid work in the home could also reflect the shortage of schools and child-care centres with suitable hours to give mothers more options in terms of paid formal employment. In this connection, a study by Arceo-Gómez and Campos-Vázquez (2010) shows that the number of hours of paid work done by Mexican women with children under five years of age is much more sensitive to variations in the wage than those of the average Mexican woman. This could be explained by the fact that traditional female roles in the household put constraints on how women choose to distribute their time.

Attanasio, Low and Sánchez (2008) study the determinants of variations in the supply of labour by women with children, in three different cohorts in the United States, based on a life-cycle model. The results of their research show that a reduction in the monetary cost of child care and an increase in wages both encourage female labour market participation. In another study, Ludin, Mörk and Öckert (2008) estimate the effects of the reduction in child care costs on female labour supply in the United States and suggest that the impact is significant but heterogeneous, since it depends on the type of family and the region being studied. Warunsiri and McNown (2010) estimate the determinants of female labour supply in Thailand by constructing and analysing different synthetic cohorts of women. The authors' main finding is that there is a negative relation between the wage and women's hours worked in that country (the wage elasticity of labour supply was around -0.25). The article claims that the existence of a downward sloping labour supply curve could reflect to the competitive uses of a woman's time (Dessing, 2002). In other words, an increase in wages might reduce hours worked, because women could choose to devote more time to activities such as child care and the provision of domestic services.[2] Another important conclusion of the same study is that, although single women are more sensitive to wage changes than married women in terms of hours worked, they are less likely to be working. In this context, other research studies, such as those of Schultz (1990), Dessing (2002) and Warunsiri and McNown (2010) have concluded that the wage elasticity of hours worked is also negative in countries such as Thailand, Peru and the Philippines.

In other studies relating to developing countries in which pseudo-panel techniques are used, such as Bassi (2003), the conclusion is that, despite the wage elasticity of hours worked being positive as in developed countries, its magnitude is much smaller. Thus, women's hours worked in those countries might be explained by other variables that could be related to the use of time and the traditional tasks undertaken by women in the home, such as child care and domestic chores, such as washing, ironing and cooking. Frequently, one of the main motives for women entering the labour market is to maintain a certain level of household income, as indicated by Licona (2000) in a study on

[2] For women who are working, a change in the wage induces both income and substitution effects, with opposing consequences for hours worked. Although the normal expectation is that the income effects will exceed the substitution effects, so that the elasticity of hours worked with respect to wages is positive, the evidence from several developing countries rejects that assumption.

the effect of poverty on female labour supply in Mexico. This has been corroborated in other studies, including Dasgupta and Goldar (2005) on indigenous women living in poverty. It can therefore be concluded that the determinants of female labour supply might be affected by very different factors than those affecting men (Juhn and Murphy, 1996).

Lastly, it is important to note that there are few empirical studies that focus on the effect of household structure on women's hours worked and, specifically, analyse whether the presence of other adults who could undertake unpaid domestic activities, or children in the home, would represent an assistance or a barrier to women's labour market participation. The present research aims to fill this gap in the traditional literature and provide empirical evidence using pseudo-panel techniques with a cohorts approach, applied to the relation between household structure and women's hours worked in Mexico.

III. Theoretical framework

The theoretical underpinning of the analysis in this article is the life-cycle model of labour supply of cohorts of women described by Attanasio, Low and Sánchez (2008). In that model, households face uncertainty about men's and women's wages, maternity is exogenous, and children impose a fixed monetary cost when the mothers decide to undertake a paid activity. Basically, the model explains changes in the female labour supply and assumes that households maximize their life-expectancy utility. The utility function that is developed is inter-temporally separable, and instantaneous utility depends on consumption per person in the home and the wife's labour supply choice.

The model assumes a household with an instantaneous utility function of the form:

$$u_t = u(c_t, P_t, e_t)$$

where P_t is a discrete variable {0,1} which measures the woman's labour supply decision; c_t is total household consumption and e_t is the number of equivalent adults in the household.

The model also defines $G(a_t)$ as the number of units of child care needed by a family whose first child is aged a_t. The price of each care unit is expressed as p. Thus, the total cost of child care incurred by a household when the woman participates in the labour market is given by:

$$F(a_t) = pG(a_t)$$

The study is relevant in terms of the woman's choice to join the labour market. The information provided shows that only the most productive women remain in the labour market after having children. It also shows the potential importance of the choice to continue working after having children, or not, and the repercussions of that decision on women's experience and wage.

IV. Data and results

1. Stylized facts on women's hours worked in Mexico

To analyse women's hours worked in Mexico, quarterly data were used from the ENOE, relating to the country's 32 states. The period of analysis runs from the third quarter of 2005 to the second

quarter of 2010. The ENOE is a nationally representative survey that generates occupational and sociodemographic statistical data. Although the sampling is random, the selected homes are replaced through a rotation scheme in which the 1/5 of the sample that has already completed a cycle of five visits from the questioners is replaced every three months. Thus, 80% of the sample is maintained each quarter.

The statistical analysis is applied only to women who fulfil the following characteristics: (i) they are employed; (ii) they undertook paid work during the previous week, and (iii) they have a monthly income. The sample includes women employed in both the private and public sectors, along with those who are self-employed. To provide empirical evidence of the relation between household structure variables and women's hours worked through time, a statistical analysis was performed at the cohort level. To that end, nine cohorts were constructed from the birth years of the target population, taking account of the characteristics mentioned above, and subject to the requirement of being of working age (from 12 to 65 years old).

The data show that the average number of hours women devote to paid work each week has trended upwards through the cohorts (see table 1). Women in cohort 1 (1940-1950) on average work 5.46 hours less than their peers in cohort 9 (1985-1992). Women in cohort 8 (1980-1985) apparently work most hours per week (40.33), but their wage level is not as high as cohort 4 (1960-1965) which on average works 2.9 hours less.

Table 1
Mexico: income and hours worked per week by cohort of employed women

Cohort		Average number of hours worked	Median real income[a]
1	1940-1950	34.55	1 718.37
2	1950-1955	36.36	2 237.03
3	1955-1960	36.99	2 582.30
4	1960-1965	37.40	2 767.25
5	1965-1970	37.87	2 724.89
6	1970-1975	38.15	2 691.84
7	1975-1980	38.92	2 724.89
8	1980-1985	40.33	2 643.89
9	1985-1992	40.01	2 148.98

Source: Prepared by the authors, on the basis of data from the National Survey on Occupation and Employment.

[a] Real income is defined as the monthly income in pesos declared by employed persons. To convert this into real values, the National Consumer Price Index (INPC) was used for each quarter in 2005-2010. The median wage is shown because the skewed distribution of the data makes it the best measure of central tendency.

The data in table 2 show that the presence of an adult in the home, which could represent unpaid help for women in domestic chores, is associated with an increase in hours worked. For example, the women of cohort 8 (1980-1985) on average work 4.6 hours more when there is another adult in the home than when there is not. In general, all of the cohorts benefit in terms of hours worked when there is another adult in the home. In fact, a women's willingness to enter the labour market seems to increase when there is potential assistance from some other adult in the household, so this could have a positive effect on the number of hours they devote to paid work.

Table 2
Mexico: average hours worked by women, by availability of help from another adult in the home, by cohort

Cohort		With help from another adult	Without help from another adult
1	1940-1950	34.99	33.85
2	1950-1955	36.33	36.44
3	1955-1960	36.96	37.10
4	1960-1965	37.46	37.19
5	1965-1970	38.20	37.17
6	1970-1975	39.34	36.66
7	1975-1980	41.02	36.45
8	1980-1985	41.73	37.12
9	1985-1992	40.46	37.28

Source: Prepared by the authors, on the basis of data from the National Survey on Occupation and Employment.
Note: A difference-in-means test was performed for the two groups (with assistance and without assistance) and the difference in hours worked proved statistically significant.

Table 3 shows that from cohort 3 onwards (1995-1960), the presence of at least one child under six years of age in the home is associated with fewer hours worked by women, compared to households that do not have children. This trend is maintained in the ensuing cohorts. Moreover, the number of hours by which women reduce their paid activity when they have children rises through the cohorts. In other words, women in cohorts 7 and 8 who have children under six years of age work 4.8 and 4.4 hours less, respectively, than those who do not have children. This means that caring for the children could have a negative effect on women's hours worked in Mexico, perhaps owing to the large amount of time needed. It was therefore decided to study the effect of this group of children since previous studies provide evidence that women with children under five participate less in the labour market than the average of women without children under five. This lack of association could be because children impose significant constraints on the allocation of time (Arceo-Gómez and Campos-Vázquez, 2010).

Table 3
Mexico: average hours worked by employed women, by presence of children under six years of age in the household, by cohort

Cohort		Have children under six	Do not have children under six
1	1940-1950	34.83	34.54
2	1950-1955	37.49	36.34
3	1955-1960	36.28	37.01
4	1960-1965	35.72	37.52
5	1965-1970	35.90	38.27
6	1970-1975	35.74	39.10
7	1975-1980	35.61	40.45
8	1980-1985	36.93	41.43
9	1985-1992	38.69	40.31

Source: Prepared by the authors, on the basis of data from the National Survey on Occupation and Employment.
Note: The difference in hours worked in both groups the cohorts 1, 2 and 3 is minimal because there are few observations of individuals in those cohorts with children under six. A difference-in-means test was performed for the two groups (with children under six and without them) and the difference in hours worked proved statistically significant.

The information shown in table 4 confirms that the presence of children in the household is strongly related to a reduction in women's hours of paid work. When children between six and 14 years of age are present, the average number of hours worked by women declines in all cohorts. In this case, the data show that women in cohort 7 (1975-1980) are those who work fewest hours when they have children in this age range. In contrast, the women in cohort 9 seem not to work less if they have young children, although that positive relation is present.

Table 4
Mexico: average hours worked by employed women, by presence of children between six and 14 years of age in the household, by cohort

Cohort		Have children from 6 to 14 years of age	Do not have children from 6 to 14 years of age
1	1940-1950	34.83	34.53
2	1950-1955	35.76	36.44
3	1955-1960	35.88	37.35
4	1960-1965	36.08	38.34
5	1965-1970	36.56	39.59
6	1970-1975	36.48	40.30
7	1975-1980	36.45	40.61
8	1980-1985	39.15	40.78
9	1985-1992	39.90	40.07

Source: Prepared by the authors, on the basis of data from the National Survey on Occupation and Employment.
Note: The difference in hours worked in both groups the cohorts 1, 2 and 3 is minimal because there are few observations of individuals in those cohorts with children under six. A difference of means test was performed for both groups (with children from 6 to 14 and without them) and the difference in hours worked proved statistically significant

The foregoing table suggests that the presence of an additional adult in the household is positively related to the number of hours that women can devote to paid work. In contrast, the presence of children in the household is inversely associated with the number of hours worked. The next section estimates models to test the statistical validity of those causal relations. Nonetheless, the situations in question could be reflecting the fact that children require care and attention, which could affect the availability of women's hours, and raise the cost of deciding to work if there is no help from another adult in the home.

Table 5 shows data for women who live in households containing at least one additional adult and at least one child aged under six. This reveals that in most of the cohorts, the presence of another adult who could do unpaid domestic chores in the household, enables women to spend more hours in paid work despite having young children. In this case, the largest difference between women with children under six who have help and those who do not, is in cohort 8 (1980-1985).

Another perspective on the relation between the presence of another adult and women's hours worked in the labour market is through their education levels. Table 6 shows that women with a low level of schooling work more when there is another adult in the home. In contrast, women with a high level of education do not seem to work more hours when there is another adult and small children in the home. It is important to note that women in cohorts 7 and 8 work the largest number of hours when they have help from another adult in the home, irrespective of their education level.

Table 5
Mexico: average hours worked by employed women who have children aged under six, by presence or absence of another adult in the household, by cohort

Cohort		With help from another adult and children under six	Without help from another adult and with children under six
1	1940-1950	35.01	33.86
2	1950-1955	37.75	36.45
3	1955-1960	36.92	37.17
4	1960-1965	36.31	37.47
5	1965-1970	36.20	37.77
6	1970-1975	36.80	37.77
7	1975-1980	38.65	38.40
8	1980-1985	42.10	39.96
9	1985-1992	41.53	40.28

Source: Prepared by the authors, on the basis of data from the National Survey on Occupation and Employment.
Note: A difference of means test was performed for the two groups (with assistance and without assistance) and the difference in hours worked proved statistically significant.

Table 6
Mexico: income and hours worked by employed women, by education level and cohort

Cohort		Preschool-primary		Secondary-upper middle		Higher		Postgraduate	
		Mean hours worked	Median real income[a]	Mean hours worked	Median real income[a]	Mean hours worked	Median real income[a]	Mean hours worked	Median real income[a]
With help from another adult									
1	1940-1950	35.07	1 595.98	36.48	3 040.62	35.53	5 901.05	34.52	9 116.52
2	1950-1955	35.99	1 833.22	37.51	3 133.63	36.22	6 347.52	37.13	12 301.48
3	1955-1960	37.11	1 917.40	37.63	3 133.63	35.87	6 319.28	37.83	13 584.27
4	1960-1965	37.38	1 922.74	38.48	2 982.71	35.69	5 830.01	38.62	9 349.95
5	1965-1970	37.47	1 949.60	39.24	2 706.95	36.51	5 410.39	36.99	9 837.72
6	1970-1975	38.01	1 960.05	40.53	2 588.95	38.35	5 008.08	35.05	8 232.13
7	1975-1980	40.31	1 983.68	42.34	2 566.51	39.49	4 637.43	39.51	5 549.22
8	1980-1985	42.75	2 066.33	42.90	2 472.20	39.09	4 099.05	38.26	5 224.20
9	1985-1992	41.59	1 854.15	40.56	2 133.64	37.50	3 159.64	26.00	4 435.16
Without help from another adult									
1	1940-1950	33.87	1 342.22	35.41	2 729.43	34.25	6 466.88	37.25	12 041.64
2	1950-1955	35.92	1 663.41	37.89	3 122.92	36.62	6 709.92	37.80	11 085.10
3	1955-1960	36.83	1 788.82	38.16	3 128.35	36.40	6 821.29	41.55	12 485.75
4	1960-1965	37.51	1 854.15	38.09	3 090.26	35.78	6 319.28	39.12	13 525.97
5	1965-1970	36.56	1 865.44	38.27	2 949.85	35.91	5 871.18	38.69	11 153.27
6	1970-1975	35.16	1 786.10	37.55	2 669.93	36.18	5 440.73	36.15	9 092.20
7	1975-1980	34.40	1 737.80	37.32	2 464.37	36.67	5 032.44	36.38	7 630.18
8	1980-1985	35.42	1 744.85	37.64	2 379.84	37.57	4 471.50	35.00	8 745.01
9	1985-1992	35.02	1 674.62	37.99	2 246.41	37.63	3 920.10	-	-

Source: Prepared by the authors, on the basis of data from the National Survey on Occupation and Employment.
Note: A difference of means test was performed for the two groups (with assistance and without assistance) and the difference in hours worked proved statistically significant.

[a] Real income is defined as the monthly income in pesos declared by employed persons. To turn this into real values, the National Consumer Price Index (INPC) was used for each quarter in 2005-2010. The median wage is shown because the skewed distribution of the data makes it the best measure of central tendency.

The stylized facts developed in this section suggest the following: (i) the average number of hours worked by women in each cohort is greater when there is another adult in the household, and (ii) with the presence of children under 14 years of age, the average number of hours worked declines in each cohort. This provides empirical evidence that household structure probably affects the time women devote to paid work, which could be explained by the fact that women must also choose the number of hours they will spend looking after household members and producing goods in the household in an economy such as Mexico's. It was also found that education level can affect the number of hours that women are willing to spend in the labour market.

2. Results

To determine the effect of the household structure factors on women's hours worked, the following econometric specification was formulated:

$$ln\ h_{it} = \theta lnw + X_{it} + Z_{it} + u_i \quad (1.3)$$

where:
$ln\ h_{it} lnh$ is the logarithm of monthly hours worked by the women of cohort i in time t.
$ln\ w\ lnw$ is the logarithm of the monthly real wage.
$X_{it}\ X$ is a vector of socio-demographic variables and other individual characteristics.
$Z_{it}\ Z$ is a vector of household structure variables.
u_i is the error term.

Nonetheless, estimating the equation could raise the problem of endogeneity in the monthly real wage variable, owing to potential simultaneity between that variable and hours worked. To address this problem, instruments were constructed for the wage,[3] whose econometric specification includes the real exchange rate, the level of imports and the minimum wage (Robbins, Salinas and Manco, 2009).

Table 7 sets out the results of the model of the determinants of women's hours worked based on a pseudo-panel formed from the representative sample of the ENOE at national level. The results are shown with five different types of estimates to ensure their statistical robustness. The data shown in columns I to IV were estimated from a panel containing the whole sample of ENOE individuals, spanning the third quarter of 2005 to the second quarter of 2010, with about 5.2 million observations. Column (I) reports the estimation of the regression of hours worked without controlling for heterogeneity between individuals or wage endogeneity. Column (II) includes cohort and time effects. The coefficients shown in column (III) were calculated by correcting for the problem of wage endogeneity using instrumental variables. Column (IV) shows estimations based on weighted least squares (WLS). Lastly, column (V) shows the elasticity of women's hours worked, based on a dynamic pseudo-panel technique. In other words, after obtaining the mean of the variables of interest for each cohort, a temporary database is obtained, and lags are added to the dependent variable and instruments to control for possible endogeneity of the real wage.

[3] The variables used as an instrument for the wage were: age, age squared, real exchange rate, imports and minimum wage.

Table 7
Mexico: factors determining women's hours worked

Variable	POOL				Dynamic HS pseudo-panel (V)
	(I)	(II)	Instrumental variables[a] (III)	Weighted least squares (IV)	
Wage	0.412 [0.0005]	0.411 [0.0005]	0.400 [0.0108]	0.412 [0.0005]	0.273 [0.1333]
Presence of another adult (woman) in the household	0.081 [0.0009]	0.081 [0.0009]	0.081 [0.0009]	0.081 [0.0009]	0.005 [0.0030]
Presence of another adult (man) in the household	-0.003 [0.0009]	-0.003 [0.0009]	-0.004 [0.0010]	-0.003 [0.0009]	-0.001 [0.0028]
Children aged 6-14 years	-0.027 [0.0005]	-0.027 [0.0005]	-0.028 [0.0007]	-0.027 [0.0005]	0.001 [0.0037]
Education	-0.032 [0.0001]	-0.032 [0.0001]	-0.031 [0.0010]	-0.032 [0.0001]	-0.029 [.0143]
$Education_{-1}$	-	-	-	-	0.010 [0.0132]
$Education_{-2}$	-	-	-	-	-0.020 [0.0164]
Age	-0.004 [0.0002]	-0.004 [0.0001]	-0.004 [0.0002]	-0.004 [0.0002]	0.091 [0.0386]
Age_{-1}	-	-	-	-	-0.187 [0.0409]
Constant	4.121 [0.0071]	4.093 [0 .0040]	4.139 [0.0200]	4.122 [0.0072]	0.0203 [0.0089]
Number of observations	1 486 014	1 486 014	1 441 978	1 486 014	261

Source: Prepared by the authors, on the basis of data from the National Survey on Occupation and Employment.
Note: All of the regressions include dummy regressors in each of the quarters. Regressions I, II and IV include cohort and time fixed effects, while II only includes cohort fixed effects.
[ ]: Standard deviation.

[a] Instrumentalized according to the methodology specified above.

The results show that there is a positive elasticity between the wage and women's hours worked, because a wage increase would make them more willing to increase the proportion of their time spent in paid work. The coefficients obtained in each of the models with different estimation methods are consistent in terms of their values and statistical significance. Column (V), which corresponds to the results of the dynamic pseudo-panel, indicates that with a 10% wage increase, women would be willing to work 2.7% longer. Nonetheless, according to the models presented, the wage is not the only factor with a positive effect on the hours women work in the labour market. Other factors related to household structures also affect the time women devote to paid work, which have not been studied in depth in the previous literature. For example, the results of the pseudo-panel show that when there is another woman in the household (over 14 years of age), who could represent extra unpaid help in household chores, women spend more time in paid work (0.005). This result is consistent with those of regressions I, II, III and IV, since the effects in all versions presented and in all cases are statistically significant. Based on these statistically robust results, it can be claimed that the presence of another woman in the household could imply help in the domestic chores that women normally fulfil, so the effect on the amount of time women spend in the labour market would be positive (the extra help will enable them to spend less time on household activities and taking care of household members). Public policy should therefore focus on providing help for women in the home, to reduce the time they have to spend on domestic chores, which often impedes their voluntary participation in the labour market. In other words, public policies are needed that reconcile or replace certain unpaid tasks, such as child care service or direct help for the care of household members who need it (Gammage and Orozco, 2008). Nonetheless, the presence of at least one male adult (over 14 years of age) in the household, without a paid job, produces a negative effect on women's hours worked (-0.001). Although this

coefficient is not statistically significant (only in the pseudo-panel regression), it displays a robust trend in all models reported.

Regressions I to IV show that the effect on hours worked of the presence of children between six and 14 years of age is negative and statistically significant. Thus, when the household contains children, women reduce the time they spend on paid work. This can be explained by the time demands that child care represents for women (Pedrero, 2009). This suggests that a reduction in childcare costs increases women's hours worked in the labour market (Attanasio, Low and Sánchez, 2008). Another relevant and consistent finding in all of the estimations is the negative impact of education level on the hours women spend in paid work. For that purpose, the variable that indicates women's years of schooling was considered; and, as higher levels of schooling are associated with higher incomes and better job conditions (Domínguez and Brown, 2013), the substitution effect might dominate in this case. In other words, if they already have a substantial level of income, women could decide to reduce the number of hours worked in the labour market and spend them on other activities. Another factor that has a negative effect on women's hours worked in the labour market is age, since the result is also robust in all versions presented in table 7. On this basis, it can be claimed that the older the women, the fewer hours they are willing to spend in paid work.

In general, the variables that positively affect women's hours worked and whose results display an adequate level of statistical robustness are: (i) the wage, and (ii) the presence of another woman over 14 years of age in the home. Factors that have a negative effect on women's hours worked and are consistent in all regressions are: (i) the presence of a male older than 14; (ii) the presence of children aged between six and 14; (iii) education level, and (iv) age. On this basis, it can be stated that household structure is an important element in determining the number of hours women spend in paid work, and that this could be related to the time they devote to household activities.

V. Final comments

The aim of this study has been to determine whether household structure in any way affects the number of hours that women spend doing paid work in the labour market. The results obtained with the pseudo-panel technique suggest that a woman's hours worked do depend on the number of adults and children living in the household. Specifically, evidence was found that the presence of young children reduces the availability of women's time. This could be directly related to the care and attention that children require of the woman, based on her traditional role within the household, thereby occupying most of her time and simultaneously reducing her availability for working outside. In this context, it can be stated that women undertake a considerable amount of unpaid work in the household, and this restricts their possibilities of entering the labour market. The results of this study admit several public policy suggestions that focus on reducing the time women spend on domestic activities and care in the home. A first recommendation is to design and develop actions to generate and provide incentives for help in the home. Although the presence of another woman makes it possible to reduce the workload in the household and promotes an increase in female hours worked, public policies are needed to replace that help, so as to prevent unpaid work being transmitted from one woman to another. Accordingly, public policies are needed —such as an increase in the number of public child-care centres and the development of school programmes— that give greater flexibility to women's timetable. It is important to develop public policies aimed at supporting domestic activities, particularly those related to household members and their care. With this type of action, women's hours worked would increase, because they would be better placed to supply a larger number of hours to the labour market. This would also enable them to improve their quality of life should they

voluntarily so decide. Domestic activities, such as caring for family members and producing of goods in the household, represent one of the key factors that restrict the time women have available for formal work; and this affects women much than men (INEGI, 2012).

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