

Gender Roles and the Household Division of Unpaid Work: Evidence from the Spanish Time Use Survey

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Abstract

This paper examines the role of the *doing gender* hypothesis versus traditional models of the household in explaining how the female share of home labor varies with relative earnings. Our findings using the 2002-03 Spanish Time Use Survey (STUS) support the *doing gender* hypothesis in the case of housework: a woman's relative share of housework fails to decrease with her relative earnings beyond the point where her earnings are the same as her husband. In contrast, a woman's share of childcare time displays a flat pattern over the distribution of spouses' relative earnings. This last result is neither consistent with traditional theories of the household, nor with the *doing gender* hypothesis. It can however still be interpreted in light of social norms, whereby women specialize in this type of caring activity regardless of their relative productivity or bargaining power.

JEL Classification: D13, J0, J1, J2, Z13.

Keywords: Household Production, Childcare, Doing Gender, Identity, Social Norms, Household Specialization, Household Bargaining.

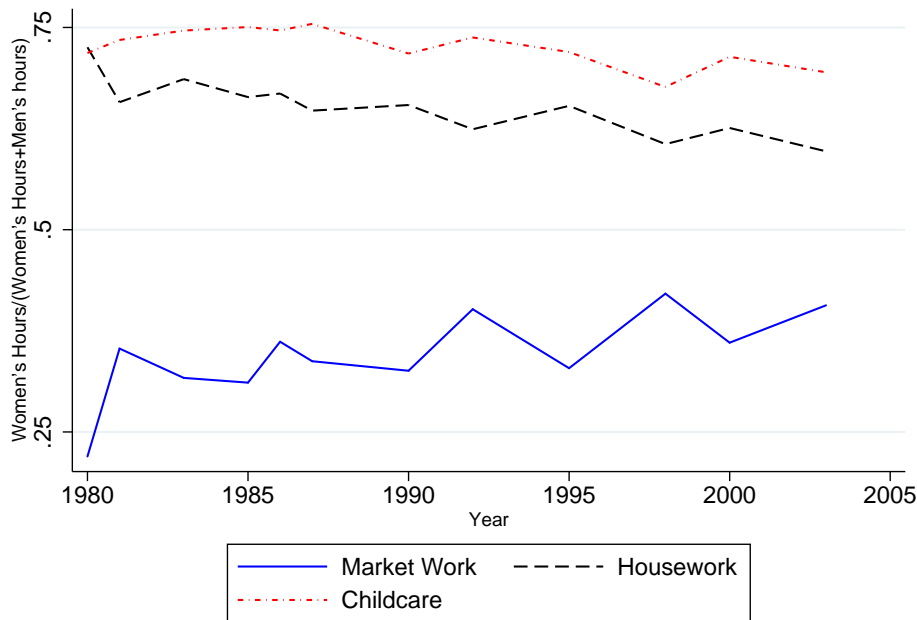
1 Introduction

A woman who works full-time spends between 20 and 30 hours per week in housework (e.g., Juster and Stafford 1991, Gauthier, Smmeding, and Furstenberg 2004), and between 6 and 12 hours in childcare (e.g., Aguiar and Hurst 2007). Of particular concern is the fact that, despite the increases in women's relative earnings, women continue to do most of home labor. Ample evidence from time-use surveys shows that across developed countries, the increase in female labor force participation in recent decades has not been fully compensated by a similar decrease in women's home time. Furthermore, men's contribution to home labor has only been modest, so that specialization within the household has remained relatively unchanged (e.g., Gershuny 2000, Bianchi, Wight, and Raley 2006a).

The negative socio-economic consequences of this pattern of specialization, in which women bear most of the burden of unpaid labor has important policy implications. Beyond the well-known negative effect on women's career prospects, due to its indirect effect on human capital accumulation (e.g., Becker 1985, Mincer 1974), a large body of research has found that the inherent incompatibilities between childcare and housework commitments on the one hand, and job requirements on the other hand, carries a penalty on women's wages (for a review of the literature see Sigle-Rushton and Waldfogel 2007, Hersch and Stratton 2002). Apart from the pure economic considerations, some authors have also shown that the unequal division of home labor can also help explain the patterns of low fertility and low female labor force participation (Sacerdote and Feyrer 2008), and low rates of household formation (Sevilla-Sanz forthcoming), observed in some Southern European countries, including Spain.

The persistence of this unbalanced division of housework and childcare contrasts remarkably with the predictions from traditional economic theories of the household, which forecast a more egalitarian allocation of time within the household, as female human capital increases. To reconcile the theory with the data, the literature has turned to the concept of *doing gender*. In particular, it is argued that when men earn less than their wives, a gender norm violation occurs. Thus either the wife, the husband or both move to more traditional behavior in the realm of home labor, in order to neutralize this deviance. This article makes a contribution to feminist scholarship in the important topic area of the household division of housework and childcare by examining the role of the *doing gender* hypothesis versus traditional models of the household for the case of Spain.

FIGURE 1: Evolution of Women’s Share of Market Work, Housework and Childcare



Source: Constructed by the authors using time-use diaries for Canada, Norway, The Netherlands, US and the UK from the Multinational Time Use Survey (MTUS, W552)

2 Background

Despite the increase in women’s labor force participation, specialization within the household has changed very little over the decades. Women continue to do more than half of the housework in most industrialized countries (e.g., Bittman and Wajcman 2000), and about twice and four times more childcare than men (e.g., Aguiar and Hurst 2007). Hoschchild and Machung (1989) first used the term *second-shift* to refer to qualitative evidence pointing to the fact that, when a wife works more hours than her husband outside the home, she still undertakes a larger share of housework. Figure 1 corroborates this evidence using data from the Multinational Time Use Survey (e.g., Center for Time Use Research 2006). Between 1980 and 2000, across the developed world, women doubled their share of paid work with respect to men, going from 22 percent to 44 percent of total paid work. However, the share of women’s time in unpaid labor (both housework and childcare) hardly changed during this same period.

Traditional models of the household cannot successfully explain these anomalies. In economics, unitary household models based on the concept of comparative advantage predict that the spouse with the lowest opportunity cost (i.e. the lowest human capital or the highest home productivity) contributes the most to household production and the least to market work

(Becker, Murphy, and Tamura 1990). In contrast to the single utility Beckerian framework, intra-household bargaining models in Economics, and exchange models in Sociology, take the view that the family is a place of conflict and cooperation. Bargaining models are based on the concept of *threat points*, and pay special attention to the interaction between heterogeneous preferences of household members and power distribution between them. Cooperative Nash bargaining household models assume that the threat point is determined by the cost of the break-up of the marriage (McElroy and Horney 1981, Manser and Brown 1980), and non-cooperative bargaining models assume that the threat point is not divorce, but internal to the marriage and determined by a noncooperative equilibrium, defined in terms of *socially recognized and sanctioned gender roles* (Lundberg and Pollak 1996). According to bargaining models an increase in women's economic opportunities outside the home improves their bargaining position within the household, resulting in a decrease of their contribution to household production. Similarly, sociological exchange models state that the partner with the highest earnings will trade off labor market earnings for time spent doing housework.¹ Thus, both unitary and exchange-bargaining theories yield the same conclusion regarding the household distribution of unpaid work.

The disconnect between fact and theory has driven social scientists to question traditional theories of the household, and to look for more satisfactory explanations to these empirical anomalies. In particular, the common assumption of a gender-neutral process governing household decisions has come under scrutiny. Sociologists have challenged this traditional view of norms in favor of the notion of *doing gender* (see Coltrane (2000) for an overview). This concept is rooted in the idea that individuals internalize gender-role expectations held by others, and consequently that gender affects the household decision process itself. *Doing gender* theories predict that when men earn less than their wives a gender norm violation occurs, thus either the wife, the husband or both move to more traditional behavior in the realm of housework in order to neutralize this deviance.

The *doing gender* analog in economics can be found in the *economic models of identity* proposed by Akerlof and Kranton (2000). In these models the psychology and sociology of identity, a person's sense of self, is incorporated into an economic model of behavior to explain how it may affect different economic outcomes. In their model, identity is associated with different social categories and how people in these categories should behave. The authors argue

¹For an overview of exchange theory, see Molm and Cook (1995) and Cook (1987). For applications to marital power, see Heer (1963), Scanzoni (1979), and Molm and Cook (1995).

that, once identity is introduced in a traditional model of the household, the pattern of division of labor observed in the data by which women undertake a greater share of housework than their husbands, even when they work more hours and have higher earnings, can be successfully explained. In particular, because of the prescription held by most men that *men should earn more than their wives* a husband loses *identity* when his wife earns more than him. Equality in utility is restored when the wife undertakes more housework than her husband, given the prescription that *men should not do women's work at home*. Akerlof and Kranton (2000) use the Panel Study of Income Dynamics to show that when men do all the outside work, they contribute about 10 per cent of all housework. But as their share of outside work falls, their share of housework increases only up to 37 per cent.

Doing gender and *identity* theories have received support from empirical studies based on large-scale national surveys, in the US and elsewhere. Brines (1994) uses the Panel Study of Income Dynamics (PSID) to show that a woman's relative housework contribution decreases up to the point where her earnings are the same as her husband, and increases afterwards. Similarly, Greenstein (2000) uses the National Survey of Families and Households (NSFH) to show that both economically dependent men and breadwinner wives tend to neutralize the gender deviance in their economic performance, by undertaking less and more housework, respectively. These findings for the US are challenged by Gupta (1999), who replicates Brine's work and finds that the nonlinearity disappears once the 3 percent of couples whose husbands are at the top of the relative earnings distribution are dropped from the analysis.

Unlike in the US studies, Bittman, England, Folbre, Sayer, and Matheson (2003) use a sample of Australian couples and find that it is the woman's housework (not the man's) that increases, as she contributes more than 50 percent to household income. Their results are robust to different sample considerations. In comparing their results to those of the US, these authors conclude that men's decrease of housework when women's relative earnings are higher than 50 per cent is small in both countries, and comes from the extreme tail of the men's earnings distribution. However, the fact that a woman's housework increases in Australia and not in the US when she earns more than her husband, is argued to be due to institutional and cultural differences that make women primary breadwinning more deviant in Australia than in the US. In this vein Evertsson and Neremo (2004) compare Swedish and US couples in the period between 1970 and 2000, and find persistent evidence of *doing gender* only in the case of US married women. They

suggest that women in the US are dependent on their husbands to a greater extent than Swedish women, and hence the gender deviance in the wives' breadwinner role is also greater in the US. Consequently, breadwinner wives in the US tend to *do gender* but Swedish breadwinner wives do not.

For the purpose of the empirical analysis, the present paper follows the existing literature and identifies the *doing gender* effect through the impact of women's relative earnings on women's share of home time. As in previous studies, we also control for an array of household and individual observed heterogeneity that aims to net out the effect of specialization or bargaining from the *doing gender* effect in regard to the household decision process over unpaid labor. We further extend the previous research by exploring the nature of social norms, i.e., masculinity norms or femininity norms. In particular, we look at whether traditional husbands and wives, who occupy non-traditional provider roles, may feel compelled to resort to more traditional divisions of housework and childcare, whereas non-traditional husbands and wives do not. We explore the presence of limits to the levels of outsourcing for higher income households, i.e., limits on the ability to purchase home services in the market (such as cleaning, or cooking services), and also look at alternative explanations to *doing gender* based on systematic differences in the nature of the jobs held by women who earn more than their husbands.

The paper adds to the literature on *doing gender* and the division of household labor, by tackling the issue of social norms more directly, using a rich dataset, the Spanish Time Use Survey (STUS). Most previous studies on this issue use stylized questions of the form "How much time did you spend doing activity X?" (e.g., Brines 1994, Greenstein 2000). In contrast, in the STUS, individuals record each activity during the 144 ten-minute intervals of the day, which has been shown to be more reliable (e.g., Juster and Stafford 1991). More importantly, the time-use diary data used here is particularly advantageous over other diary surveys, such as the American Time Use Survey, because it not only contains diary information on the respondent, but also on the spouse. This is crucial for the construction of a measure of specialization within the household.

The richness of the diary data also allows us to extend the only previous study that uses time-diary information (e.g., Bittman, England, Folbre, Sayer, and Matheson 2003), by looking not only at how husbands and wives allocate their time to household chores (or housework), but also how they allocate their time to childcare. Distinguishing between childcare that is closer

to leisure from childcare that is closer to being conceptualized as domestic labor, is a difficult task. In this paper we take the conceptualization of child care a step further, and construct alternative definitions of childcare using extra information in the diary about with whom the activity takes place, and about other activities being done simultaneously. These definitions of childcare range from the most simplistic one often used in the literature, i.e., childcare reported as the main activity, to a more general definition of childcare, capturing routine-type activities done in the presence of a child.

A final contribution to the literature is the study of Spain, a country which is less well-known than other countries (in particular the Anglo-Saxon countries where most research has focused). Spain has one of the lowest female labor force participation rates across the OECD countries, and has deeply entrenched gender roles. Using data on attitudes toward women’s role in society from the International Social Survey, Sevilla-Sanz (forthcoming) shows that Spain ranks very low in terms of gender equality, compared to other developed countries such as the US and Australia. There is some evidence that gender roles play an important part in the division of home labor in Spain. Alvarez and Miles (2003) compare two-earner couples and show that the unequal allocation of housework time persists after observable characteristics are taken into account. The authors interpret this finding as a gender role residual. Unlike Alvarez and Miles’ paper, we not only look at the specialization of housework of Spanish couples in more detail, but also specialization of childcare. The latter is particularly relevant to the Spanish case, given that child care services in Spain are typically inadequate, and characterized by extreme rigidity in the number of weekly hours available (e.g., Carrasco and Rodriguez 2000).

3 Empirical Specification

In order to test whether it is *doing gender* or bargaining and specialization that is driving the division of unpaid labor in the household, we follow the existing literature and estimate the degree of specialization, measured by the wife’s share of time h_{ik} in any given household i and home labor activity k , as a function of relative wages w_{i0k} and w_{i1k} and a vector of household and individual characteristics X_{ik} , as in the following equation:

$$h_{ik} = w_{i0k}\beta_{0k} + w_{i1k}\beta_{1k} + X_{ik}\gamma_k + \varepsilon_{ik} \tag{1}$$

In the analysis in Section 5 we report weighted Tobit estimators and perform the analysis separately for housework and childcare. A Tobit specification is preferable, given that there are many men who report zero time in housework, and thus this ratio is censored at value one.²

The degree of specialization, h_{ik} , is defined as $h_{ik} = \frac{H_{i,f}}{H_{i,f}+H_{i,m}}$, for $H_{i,f}$ and $H_{i,m}$ the wife and the husband’s time in activity k . As is common in the literature, the idea is to distinguish the *doing gender* effect from the specialization or the bargaining effects, through the impact of women’s relative earnings on women’s share of home time. The main parameters of interest are the coefficients on the dummies identifying women who earn the same as their husbands w_{i0k} and women who earn more than their husbands w_{i1k} , the base category being women who earn less than their husbands. These are the coefficients β_0 and β_1 respectively.

According to the comparative advantage or bargaining explanations, the main channels through which relative earnings may affect spouses’ specialization are either efficiency or the *threat points*. Thus, according to both of these theories, we would expect that, as women’s earnings increase relative to their partners, their relative housework/childcare hours should decrease, and therefore the coefficients β_0 and β_1 should be negative and decreasing.³ In other words, the relative share of time devoted to any household activity k decreases as relative earnings increase. In contrast to traditional theories of the household, the *doing gender* hypothesis predicts that a woman’s share of time in activity k fails to decrease, or even increases, once a certain level of female relative earnings has been reached, i.e. $|\beta_{0k}| \geq |\beta_{1k}|$. Thus, whereas traditional theories of the household predict that a woman’s relative share of housework decreases with her relative earnings, so that $|\beta_{0k}| \leq |\beta_{1k}|$, social norm theories predict that higher relative earning women perform an equal or higher share of household chores than lower relative earning women.

The variables in X_i aim to capture other factors relevant for the household optimization process beyond gender roles, and include the usual household and individual variables to account for bargaining and specialization factors within the household. In particular, we control for age, education of the spouses, the presence of children and the size of the household (log of the number of household members), household income, and proxies for household technology. In order to clarify what the economic perspective adds to this issue, the econometric analysis presents different specifications of equation (1). Our most simplistic specification includes dummies to

²Weighted OLS did not significantly change the results (available upon request).

³Despite the lack of theoretical motivation, the threat point is usually characterized in the literature as the couple’s relative earnings.

identify women who earn the same as their husbands w_{i0k} and women who earn more than their husbands w_{i0k} . This specification shows the gross impact of women's relative earnings on women's share of home time, in a purely descriptive sense.

Our second, third, and fourth specifications control for total household (labor and non-labor) income, the spouses' ages, and the spouses's education level respectively. These variables aim to account for household's heterogeneity in tastes, and for variations in productivity with regard to housework and childcare. There seems to be a robust finding in the literature that highly educated women devote more time to childcare (Guryan, Hurst, and Kearney 2008). The explanations for this empirical regularity vary. On the one hand, parents may simply view the output of investing in children as being more of a luxury good than either traditional home production or leisure goods. If this reason holds true, then as income increases, the marginal utility from time invested into children is higher than the marginal utility of an additional unit of time in other activity. On the other hand, highly educated women may obtain a higher return to every unit they invest in childcare (Haveman and Wolfe 1995). To the extent that housework and childcare are complements, we would see that highly educated women not only devote more time to childcare, but also to housework. Not controlling for education and income may thus bias the results, since in our data women who earn more than their husbands are also more likely to live in richer households and have a higher level of education.

Similarly, we not only need to take into account the woman's age and level of education, but also that of her husband. For instance, it could be that the matching mechanism in the marriage market makes it more likely that women whose earnings are higher than their husbands marry men who either have a higher preference for household produced goods and childcare, or who are less productive at doing housework or childcare. If this were the case, then women who earn more than their husbands will end up doing more housework and childcare than women who earn less than their husbands. To account for this, we also consider the observable characteristics of the husband, such as age and education.

Our fifth specification adds the log of the number of people in the household, as well as the number of children in various age ranges. Our data shows no significant differences in the number of children across the relative earnings distribution, although women who earn more than their husbands are more likely to have younger children. To the extent that younger children require greater time and attention from a mother, the coefficient on relative earnings would be capturing

this effect, rather than the *doing gender* effect.

Our sixth and final specification includes individual and household heterogeneity in the production of household services. In particular we control for different measures of household technology such as whether the household has a dishwasher, a dryer, a microwave, and a separate freezer. We also include three dummies taking value 1 if the household has a paid housekeeper, if the household receives outside help (either paid or unpaid) in cooking, and if the household receives outside help (either paid or unpaid) in household maintenance activities. Controlling for these last variables is important. Limits to the ability that women have to get outside help in household production could, in principle, account for the lack of differentiation between women who earn the same as their husbands and women who earn more than their husbands. We return to this issue in Section 6.

The fact that the time-diary data are daily data allows us to control for the time of the week, and hence in all specifications we include a dummy variable that takes value one if the respondent was interviewed during a week-day. We do this to account for the fact that patterns of time use vary by day of the week. All specifications also include dummies for region of residence, to account for differential institutional settings across Spanish regions and region-specific heterogeneity regarding gender roles that may affect the division of home labor. Ideally the use of panel data would take care of all the unobserved heterogeneity, as long as this heterogeneity is constant over time. Time-diary panel data sets are very difficult to find, and certainly this is not a luxury we have in the Spanish case. We thus aim to including as much observed heterogeneity as possible to be able to account for the confounding effects described above.⁴

4 The 2002-03 Spanish Time Use Survey (STUS)

The data used for the empirical analysis is drawn from the 2002-03 Spanish Time Use Survey (STUS), part of the Harmonized European Time Use Surveys (HETUS) launched by the EU Statistics Office (EUROSTAT). It consists of a representative sample of 20,603 households and contains information on daily activities gathered by means of the completion of a personal diary and household and individual questionnaires. The sample is evenly distributed over the year

⁴To our knowledge there are only two time-use diary surveys with a panel component, the *2000-02 Home Online Survey* for the UK and the 1975-1976 *American's Use of Time: Time Use in Economic and Social Accounts*, a panel study designed and administered by the Survey Research Center at the University of Michigan with funding from the National Science Foundation and the US Department of Health, Education, and Welfare.

and the week, in order to accurately represent time use patterns during all days of the week.

The instrument of the survey is an activities diary, which all members of the household 10 years old and over complete on a selected day (the same day for all members of the household). An extensive literature confirms the reliability and validity of diary data and its superiority over other time-use surveys based on stylized questions, asking respondents to estimate time in activities on a "typical day" (e.g., Robinson and Godbey 1985, Juster and Stafford 1991). The diaries time frame is 24 consecutive hours (from 6:00 a.m until 6:00 a.m the following day) and is divided into 10 minute intervals. In each of the intervals, the respondent records a main activity and a secondary activity (carried out simultaneously with the primary activity), whether the activity was performed in the company of a child under 10 years old, another member of the household or another adult, and the location where the activity took place. Unlike the ATUS, which is a recall diary constructed for each respondent by a telephone interviewer who asks what the respondent was doing yesterday at 4:00 am, how long the activity lasted, who was there, and where the activity took place, continuing through the day for 24 hours, HETUS surveys are leave-behind written diaries, which may be of higher quality but which are more costly to collect (e.g. Juster 1985).

Activities are coded according to a harmonized list established by Eurostat and are grouped into 10 major categories: personal care, work, studies, household and family, volunteer work and meetings, social life and recreation, sports and open air activities, hobbies and games, means of communication, and non-specified travel and use of time. Table A-1 in Appendix A presents a full description of activities in each category, which follows the HETUS classification. The STUS proves particularly useful for our study since, unlike other recent diary-based time use surveys, like the American Time Use Survey (ATUS), where only one member of the family diary fills out the diary, the STUS contains information on time devoted to household production by both spouses. This information is crucial when the variable of interest is specialization within the household. As we explain below, the richness of the data also allows us to conceptualize childcare in a more precise way than has previously been done in the literature.

Due to the novelty of this data set, Table 1 presents a comparison between the STUS and the Spanish Labor Force Survey (EPA), a well-known representative panel data set of the Spanish labor market. The main demographic and economic variables in both data sets resemble each other, although the education distribution is somewhat different between the two surveys.

However, labor indicators are remarkably similar in both data sets, which suggests that the disparity in education is likely to be due to a different classification method, rather than inherent differences in educational achievement.

4.1 Sample and Descriptive Statistics

The survey contains information on 20,603 households, containing 60,493 respondents, of whom 22.68 percent are children under 10 years old. For the empirical analysis in Section 5 we restrict the sample to those individuals between 20 and 65 who are married (8,876 couples), and where both spouses report positive earnings (3,504 households). These households represent 39 percent of the sample, consistent with the Spanish Labor Force Survey.

Combining one and two-earner households in the same regressions is problematic, since the processes governing household decisions are understandably different in the two samples. More importantly, we can offer no useful exclusion restrictions to impute missing earnings for those women out of the labor force, since everything that might be used to impute wages already appears in our time use regressions. We thus take the usual approach in the literature, and restrict the sample to those couples where both are working. It is not clear, a priori, how this sample selection might bias the results. Under the plausible assumption that women out of the labor market have the highest preference for home labor, then any *doing gender* effect we may find would be a lower bound. For instance, by excluding those households where only the husband works, we are excluding those women who are likely to earn less than their husbands (in the event that they were working) and also more likely to have a higher preference for housework and childcare. If this is the case we should expect our estimate of $|\beta_{1k}|$ to be upwardly biased, which would imply that the *doing gender* effect is greater than estimated here. Regardless of the direction of the bias, it is fair to say that the interpretation of our results cannot be generalized to all couples.

We further limit the analysis to those households where both spouses work full-time (3,314 households). This cut in the sample is not significant, given the relatively small proportion of individuals working part-time in Spain, and the results would be the same when all two earner couples (full-time and part-time) are included. In order to get a clear picture of time use, we restrict the sample to those households where both spouses report a *usual day* (e.g., Bonke, Gupta, and Smith 2005). Individuals report the day as not being usual if they are either on

holiday, on sick leave, or not at work for some other reason. These observations represent 24 percent of the sample and results are robust to their exclusion. These restrictions leave us with a sample of 2,532 households.

In those regressions where a form of childcare is the dependent variable, we restrict the sample to those households in which there is a child under the age of ten, because of the way our main childcare variable is constructed. Specifically, for our preferred measure of childcare, we need to know at what times a child is present during the respondent's diary day. This information is only provided for children under ten years old, and thus reduces the sample of parents to a total of 976 households. Finally, for the sake of consistency, we present results only for those households for which we have information on all the variables for both spouses. This leaves us with 2,008 households for all the sample, and 736 households for the sample of parents.

Table 2 presents some summary statistics of the relevant socioeconomic variables used as controls in the empirical analysis for the main sample, and the sample of parents with children under 10. Neither the Spanish Time Use data nor the Spanish Labor Force Survey contains information on hourly wages. In the STUS, we do have information on net monthly earnings, but this variable is reported in intervals rather than as a continuous variable. There are 7 intervals in total, of 500 Euros each, from less than 500 Euros per month to more than 3,000 Euros per month. Although women are slightly more educated than men, only 5 percent of women (versus 10 percent of men) report net monthly earnings above 2,000 Euros. We use the information on net monthly earnings to construct three indicator variables of relative earnings that take value 1 if the wife earns less, the same, or more than her husband respectively, and zero otherwise. The number of households where the wife earns the same as her husband is 39 % and the number where the wife earns more than her husband is 10 %. These proportions are 42% and 9%, respectively, for the sample of parents.

The average age difference between spouses is 2 years, with men being 42 years old and women 40 years old on average. Following De la Fuente and Jimeno (2004) we collapse the ten educational categories provided in the survey into a variable that measures years of completed education. Five years of education if the respondent reports primary studies or lower, eight if the respondent reports a *EGB* degree (secondary school), ten if the respondent reports a *FPI* degree (elementary vocational education), twelve if the respondent reports a *BUP* degree (high school degree), 13 if the respondent reports a *FPII* degree (advanced vocational education), 15

if the respondent reports a *Diplomatura* or a 3-year university degree and 17 years of education if the respondent reports a *Licenciatura* or a 5-year university degree . Although education is distributed almost evenly between men and women, with women being slightly more educated, men tend to work about five hours more than women per week.

Another economic variable is total household income per month, which includes labor as well as non-labor income, such as dividends or transfers. As with net monthly earnings, this variable is also reported in intervals. There are 8 intervals, of 500 Euros each, from less than 500 Euros per month to more than 3,500 Euros per month. If we collapse the extremes into one (the lowest three and the top two intervals), and only consider five income ranges (below 1500 Euros, between 1500 and 2000 Euros, between 2000 and 2500 Euros, between 2500 and 3000 Euros, and higher than 3,000 Euros), about 20 % of the households fall into each category of income.

The average number of children living in the household is around 1.36, which is very similar to the Spanish overall fertility rate. Although we only have information on children living in the household, the fact that children leave the parental home at a late age in Spain makes this variable a closer approximation to the actual number of children. Furthermore, the variable of interest for our analysis is the presence of children in the household, rather than the total number of children. About 40 % of the households in our sample have children between 5 and 14 years old and about 25 % of households report having children below or equal to 4 years of age (this is almost 50 % of the sample when only households with children are considered).

The bottom 7 rows present some indicators of household technology, as well as of incidence of housework outsourcing. Variables for household technology take value one if the household has a microwave, a dishwasher, a dryer and a separate freezer, respectively. We see that almost all households have a microwave, while only about 54 % have a dishwasher and about 27 % have a dryer or a separate freezer. The outsourcing variable reflect whether the household receives any external help in the form of food preparation, household maintenance or housekeeping, independently of the number of hours received in help, or whether it is paid or unpaid. Of all households, 20 % report having a housekeeper, this number being 30 % among households with children under 10.

4.2 Housework

Table 3 shows the time devoted to housework. Housework time is reported in daily minutes and is defined as the sum of the time devoted to cooking, cleaning, mending of clothes, gardening and pets, household maintenance and repairs, shopping, and household management. We also include any travel time needed to undertake any of these activities (for example, we record as shopping any time spent driving to the supermarket). This variable does not include childcare and other caring activities, which we analyze separately.

The first pattern that emerges from Table 3 is a clear pattern of specialization within the household. The majority of women (99.15 %) undertake some housework activity, versus only 77.63 % of men. Women spend almost three times more time in household chores than men, spending 214.95 minutes per day versus only 111.72 minutes per day for men. Specialization within the household is not only apparent with respect to total time, but also with respect to the type of activity. Consistent with other studies, women concentrate on routine and more time-intensive housework, such as cooking and cleaning, whereas men are more active in sporadic and less time-intensive tasks such as gardening, maintenance and repairs (e.g., Hersch and Stratton 2000).

Table 4 shows how the time both spouses devote to housework and paid work changes with respect to spouses' relative earnings. i.e. when a wife's relative earnings are higher, equal and lower than her husband's. It also shows the variation in household specialization, defined as the time the woman spends in housework over the total amount of time that both spouses spend in that activity. First, similar to PSID evidence, even women contributing to more than 50 % of the household income engage in more than 50 % of household production. On average, a woman's share of total housework time is 76 % when she earns less than her husband, 71 % when she earns the same, and 68 % when she earns more. This is very similar to Akerlof and Kranton's figure from the PSID, where wives earning the same as their husbands still perform about 70 % of the housework. Second, women devote less time to housework activities as their relative income increases: 229 minutes when they earn less, 204 when they earn the same, and 189 when they earn more. However, men's housework time increases from 82 to 92 minutes as women's earnings increase, but decrease again to 87 minutes when women's earnings increase beyond men's. Thus, men's housework time fails to increase at the same rate as women's housework time decreases, which causes the specialization ratio to remain fairly constant.

4.3 Childcare

Many of the tasks constituting childcare can be purchased in the market, and so economists often include childcare as another form of housework (e.g., Burda, Hamermesh, and Weil 2008). The conceptualization of childcare is, however, far from straightforward. Parents report that spending time with their children is among their more enjoyable activities, especially when compared with other standard home production activities (e.g., Juster 1985, Robinson and Godbey 1985, Guryan, Hurst, and Kearney 2008, Krueger, Kahneman, Schkade, Schwarz, and Stone 2009). In sharp contrast to the negative education and income gradient researchers have observed for the amount of time allocated to home production (e.g., Robinson and Godbey 1985, Aguiar and Hurst 2007), childcare rises as education and income rise (e.g., Hill and Stafford 1974, Sayer, Gauthier, and Furstenberg 2004, Kimmel and Connelly 2007, Guryan, Hurst, and Kearney 2008).

In order to construct a measure of childcare that is more closely related to home labor rather than leisure, we take a pragmatic rather than a theoretical approach, and construct different measures of childcare according to what is usual in the literature. As in most time-use diary surveys, childcare in the STUS is categorized in terms of *activities*. We construct the variable *childcare1* as a measure of time devoted to childcare activities during the designated day (dressing, feeding, playing, taking them to school, etc.) to the extent that it is reported as a primary activity. A primary activity is defined in the STUS in response to a question such as "What were you doing", describing one activity per 10-minutes slot, including trips and travel. The respondent is free to answer in his or her own words, and then the answer is codified by the survey staff into the categories shown in Appendix A.

The conceptualization of childcare as *childcare1* is thus similar to the concept of *total childcare* in Guryan, Hurst, and Kearney (2008), which the authors define as the sum of four primary childcare activities: *Basic*, *Educational*, *Recreational* and *Travel* childcare. *Basic* childcare refers to the time spent meeting the basic needs of children, such as breastfeeding, changing diapers, and grooming, among others. *Educational* childcare refers to all the time spent in education-related activities, such as reading to children, teaching children, or helping children with homework. *Recreational* childcare involves all the time spent in games and sports with children, participating both actively and passively, such as playing games with children, playing outdoors with children, or attending a child's sporting event or dance recital. Finally, *Travel*

childcare is any travel related to any of the three other categories of childcare. This four-category classification is based on differences in human capital and behavioral implications for the children involved, and it divides the labor neatly into several opposing categories (for example, required/nonrequired work or dirty and relentless versus clean and enjoyable).

Primary childcare activities however cannot be equalized with *time that parents spend with children*. As pointed out in Folbre, Yoon, Finnof, and Fuligni (2005) and Folbre and Yoon (2007), humans are multitasking beings, whose activities often elude clear categorization. Indeed, there seems to be some evidence, from some time-use surveys, that childcare reported as primary activity significantly underreports total childcare time (e.g., Budig and Folbre 2004, Folbre and Bittman 2004, Bianchi, Wight, and Raley 2006b). Although primary childcare time is the measure that is most consistently available, both across time in the U.S. and in time diary studies from other countries, some authors argue that the heavy reliance on assessments of primary activity time at best provides only a partial picture. For example, historical estimates of childcare collected in time diaries may miss changes in mothers overall availability to children, as more mothers spend more hours away from home in employment.

In light of the reservations regarding a measure of childcare based on primary childcare activities only, our second definition of childcare draws from the information on secondary activities in the diary file. Secondary activities derive from any form of childcare mentioned in response to the query "Were you doing anything else?". An example would be a respondent who reports preparing dinner as the main (or primary activity), at the same time that he or she is helping a child with homework (as a secondary activity). We thus define *childcare2* as the time devoted to any childcare activity either as primary or secondary activity. Thus, *childcare2* includes the time devoted to *childcare1* plus the time devoted to childcare as a secondary activity.

Although our measure of *childcare2* improves on *childcare1*, it is not entirely satisfactory. According to Väisänen (2006), the STUS has the lowest time reported as secondary activities among the HETUS surveys, which makes *childcare2* not very different from *childcare1*. The amount of time-use reported as secondary activity is 82 minutes, the lowest among the UK, Finland, France, Germany, Italy, Norway and Sweden, with a mean value of 193 minutes reported as secondary activities. More importantly, measures of secondary childcare fail to capture passive or supervisory care that does not take the form of an activity. Indeed, adults are often constrained by the need to supervise or assume responsibility for young children, whether or not

they are engaged in a specific activity with them (e.g., Budig and Folbre 2004, Folbre, Yoon, Finnof, and Fuligni 2005).

Following Bianchi (2000) we thus construct a third definition of childcare that uses information on whether a child of ten years of age or younger was present while doing the main diary activity. Our measure of childcare *childcare3* adds to *childcare2* any other time that the respondent spends with children that has not been recorded as childcare in either the primary or the secondary activity. The ATUS does not ask respondents about secondary activities. The survey, however, acknowledges the diffuse nature of childcare by including a special childcare module designed to ascertain if *children were in their care*. The wording was explicitly designed to capture supervisory responsibility that did not necessarily take the form of an *activity* (Horrigan and Herz 2004).

Although the time spent on secondary childcare or in the presence of a child, as captured in *childcare3*, almost always involves less active interactions than primary childcare, and thus is less likely to be categorized as leisure (e.g., Folbre and Bittman 2004), *childcare3* could overstate childcare responsibilities by extending their definition to include social activities in which many adults are present, sharing responsibility for a small child. Many activities reported as leisure fall into this category (e.g., Mattingly and Bianchi 2003, Bittman and Wajcman 2000). For example, Table B-1 shows which primary activities are undertaken when a child under ten is present. Consistent with other time use surveys, the type of activities women do when a child is present are usually home labor, personal care, and travel. Men however tend to do more leisurely activities in the presence of children under ten, such as watching television, sports, or socializing.

The broader definition of childcare embedded in *Childcare3* allows us to make some further distinction between childcare that might be conceptualized as housework (for example, picking children up from school) and childcare that may be closer to leisure (for example, playing with a child) on the basis of the activity being done. In particular, we use the criteria of whether the type of childcare reported under *childcare3* can be easily outsourced, or whether no direct utility is likely to be derived from it, to construct two more definitions of childcare. We construct *routine childcare* as the sum of any time devoted to childcare reported as either primary or secondary activity (except playing with a child), and any other primary non-leisure activities (cleaning, shopping, eating, etc.) performed in the company of a young child. *Routine childcare*

aims at capturing the sort of childcare that is less enjoyable and that may in principle be more easily outsourced in the market. The residual variable can be thought of as the more enjoyable childcare, which we call *leisure childcare*, and is the sum of any time devoted to leisure activities (including playing with children) reported as a primary activity and performed in the company of a child. Although leisure activities performed with a child might not be as pleasant as leisure activities performed with adults, this type of childcare is closer to leisure than to housework, and we use it below as a benchmark.

For presentation purposes, in the main analysis that follows, we only present results for *childcare2* and *routine childcare*. The focus on *childcare2* rather than *childcare1* is motivated by the fact that in the STUS in particular, response rates to secondary activities are very low and the extra information from including childcare reported as secondary activity is very limited, which makes the results drawn from *childcare2* very similar to those from *childcare1*. We also concentrate on our preferred measure, *routine childcare*, because it captures the type of childcare that is conceptually closer to housework than to leisure.⁵

Table 5 suggests that the time devoted to childcare is inherently different from the time devoted to housework. In fact, gender specialization patterns, maintained for housework for this subsample of parents, are not so clear cut for childcare. According to our definitions of childcare *childcare1* and *childcare2*, women tend to spend more time in childcare activities than men, although the difference between genders is smaller than in the case of housework. On average, women spend around 142 minutes and 157 minutes on *childcare1* and *childcare2* respectively, whereas men devote 100 minutes and 112 minutes per day to these activities, respectively. The absolute difference between wives and husbands increases to 113 minutes once *childcare3* is introduced. Women spend 365 minutes per day with children under 10, whereas men spend, on average, 252 minutes per day. Furthermore, within *childcare3*, there is a marked gender specialization. Women specialize in the part of *childcare3* that is *routine childcare*, whereas men specialize in the residual childcare category of *leisure childcare*.

Table 6 shows how childcare changes with relative earnings. In the case of the first two definitions of childcare, (*childcare1* and *childcare2*), the ratio seems to follow a U-shape, diminishing when the woman earns the same as her husband, but increasing again to the original levels when the wife earns more than her husband. Despite the specialization ratio following a similar

⁵Results using either *childcare2* or *childcare3* are qualitatively the same and are available in the working paper version of this paper.

pattern to that of housework, the variations of each partner’s absolute childcare time make it clear that the conceptualization of childcare as housework is not evident. The time devoted to each measure of childcare increases with relative earnings for both partners. If childcare time is closer to leisure than to housework it would not be surprising that, as a woman’s relative earnings increase, she is able to negotiate more of this good (in line with bargaining theories). This is not quite as clear for men, whose childcare also increases over the entire relative earnings distribution.

The previous picture changes slightly when a broader definition of childcare is considered. The variation in the time devoted to *childcare3*, i.e. the time spent in the presence of a child, increases with relative earnings for the husband, and decreases for the wife (although it displays a U-shaped pattern, e.g., it decreases as a woman goes from earning less to earning the same as her husband, but increases again as she earns more than him). As mentioned earlier, however, this measure of childcare is likely to contain activities that are better categorized as leisure, and the pattern observed in the raw data might be explained by the fact that the nature of childcare that women perform changes with their relative earnings. This hypothesis is confirmed in the variation of *routine childcare* and *leisure childcare*. Whereas the time devoted to *routine childcare* decreases for women and increases for men, as female relative earnings rise, the time devoted to *leisure childcare* increases for both men and women as relative earnings go up. These patterns suggest that our definition of *routine childcare* is likely to be capturing childcare activities that are conceptually closer to housework than to leisure.

5 Empirical Results

The specialization ratios presented in tables 4 and 6 refer to unconditional variations of housework and childcare as female relative earnings increase. However, as pointed out in Section 3, there could be other explanations, apart from social norms, to account for the fact that home labor specialization does not change with the wife’s relative earnings. Not including observed household and individual heterogeneity, like education or household income, may confound the specialization and bargaining effects with the *doing gender* effect. This section addresses this issue by estimating the six specifications of Equation 1 as discussed in Section 3. We do this separately for housework and childcare.

5.1 Housework

Table 7 shows the results from estimating Equation 1 when the dependent variable is housework specialization as defined in Section 4. The main result is that, when we control for individual and household characteristics, a woman’s share of housework decreases with her relative earnings, but only up to the point where she earns the same as her husband. Beyond that point, her share of housework remains constant. This finding holds across the different specifications.

The estimates of β_0 show that a wife who earns the same as her husband reduces her housework share by 5 to 6 percentage points. Although a few percentage points in the specialization ratio might be seen as a small variation, Table 4 shows that it represents an important portion of a woman’s time of up to 3 hours a week. However, the additional decrease for a wife earning more than her husband is only about 2.5 percentage points, when we control for age and education of spouses. Moreover, although both β_0 and β_1 are negative, we cannot reject the null hypothesis that β_0 is equal to β_1 in most specifications. In particular, the last row of Table 7 shows that a Wald test for the null hypothesis that $\beta_0 = \beta_1$ cannot be rejected at the 90% level. Thus, the housework specialization ratio fails to decrease further when the wife reaches the same earnings level as her husband.

The rest of the coefficients exhibit the expected signs. The coefficients on most family income dummies are negative and significant, reflecting the fact that higher income households might be able to outsource more, and thus reduce the wife’s housework burden. The role of education is also as expected. The higher the spouses’ education levels, the lower a wife’s share of total housework. However, the coefficients, although significant, turn out to be quite small. Age for both spouses seems to be unimportant for the proportion of housework carried out by the wife. Specification five introduces the number of members of the household, and the number and ages of children. The greater the number of members of the household, the greater the wife’s share of housework, although somewhat surprisingly the number of children in the household does not seem to affect the household specialization ratio. The last specification in Column 6 introduces a variety of dummies to control for household technology in the production of household goods, as well as the ability to purchase some household goods and services from the market. Regarding household technology, only having a dishwasher is significant, and it decreases the share of housework done by the wife. In contrast, the outsourcing of household maintenance services has a positive and statistically significant coefficient, increasing the wife’s share of housework by

8.7 percentage points. This coefficient should be interpreted with caution however, as causality may run the other way. Indeed, one may argue that those households where the wife is able to outsource this type of service are also those households where housework burdens are the greatest, and thus where the wife is more likely to have a higher share of home labor. We return to this point in Section 6.

5.2 Childcare

Tables 8 and 9 show the results from estimating Equation 1 for our preferred childcare specialization measures, *childcare2* and *routine childcare*. In contrast with the results obtained for the housework specialization ratio, none of the relative earnings coefficients are significantly different from zero when childcare is the dependent variable. This finding suggests that we cannot reject a flat pattern of childcare specialization across the wife's relative earnings distribution. Although this result is not consistent with the *doing gender* hypothesis, it is also not consistent with the bargaining or the specialization theories. These theories would predict a decreasing, as opposed to flat, pattern of specialization, as relative earnings increase. Our finding, however, remains consistent with social norms, to the extent that women specialize in this type of caring activity, regardless of their relative productivity or bargaining power. We explore this further in Section 6.

The variation in the specialization ratio for either *childcare2* or *routine childcare* does not seem to be fully explained by the other standard controls. Only total household income may explain, to some extent, the pattern in the specialization ratio found for *childcare2*. We find statistically significant positive coefficients on total household income dummies. For example, in households with monthly incomes between 3,000-3,500 Euros, the wife's share of childcare increases by 5.7 percentage points, compared to households with monthly incomes below 500 Euros. Additionally, we find that the week-day dummy is positive and statistically significant, perhaps reflecting that perhaps during week-days mothers bear most of the childcare load. The size of this coefficient indicates that, on weekdays, the share of a wife's childcare time is 19 percentage points higher than at weekends. We return to this point in the next Section. For the case of *routine childcare*, only the week-day dummy continues to be positive and significant, but income ceases to be a relevant variable. The number of children aged 0-2 and 6-12 have statistically significant positive correlations with the ratio of childcare specialization, in the case

of *routine childcare*, increasing the ratio of childcare specialization by 7.7 and 6.7 percentage points for each additional 0-2 and 6-12 child, respectively.

5.3 Robustness Checks

This section explores the robustness of the previous results to the use of different specifications, variable definitions, and samples.

5.3.1 Type of Housework

Panel A of Table 10 considers two types of housework to rule out any compositional effects that might explain the results: *routine housework* such as cleaning, cooking, ironing, shopping and traveling, and *sporadic housework* such as gardening and car maintenance. The former has traditionally been recognized as being female-specific housework, whereas the latter is traditionally considered to be male-oriented, and as having a higher consumption component (e.g., Hersch and Stratton 2002). The top panel of Table 10 shows that the results shown in Section 5.1 seem to be driven mainly by *routine housework*. We find no statistically significant correlations between the spouses' relative earnings and the time devoted by wives to *sporadic housework* activities, although this result could be due to small sample sizes.⁶

5.3.2 Relative Earnings

The way in which our relative earnings indicators are constructed is potentially problematic, since it could lead to a misclassification of couples. In particular, given that the survey offers individual earnings in ranges, the gap between wife's and husband's earnings could be higher for a couple classified as 'having the same earnings' than for a couple in which 'the husband earns more than his wife'. Consider the following example where in Couple 1 the wife's earnings are 1500 and the husband's earnings are 1900 (both in the same range), and Couple 2 where the wife's earnings are 1900 and husband's earnings are 2100 (different ranges). The earnings gap is higher for Couple 1 than for Couple 2. However, according to the classification proposed in the paper, Couple 1 would be considered as "having the same earnings", whereas Couple 2 would be included in the category "the husband earns more than his wife".

⁶Splitting the analysis into male- and female-specific activities is problematic in terms of the sample size for *sporadic housework*, given that few men (and women) engage in these types of activities during the diary day.

In order to account for this potential bias, we assume an underlying normal distribution of the earnings variable and apply interval regression techniques to compute the expected value (mean) of earnings in each of the earnings intervals. We then define *relative* monthly earnings as the ratio between the wife’s net monthly earnings and the husband’s monthly earnings. Panel B in Table 10 shows the results for housework and childcare when the new relative earnings variable and its squared are used.⁷ We find a significant U-shaped effect of relative monthly earnings on the share of housework, with the share of housework done by the wife decreasing as her relative monthly earnings increase up to 5.22, when her share of housework begins to increase again. For the case of *routine childcare*, we find no statistically significant correlations between relative monthly earnings and the share of childcare, a result that is consistent with our previous results.

5.3.3 Hours of Work

Using earnings in the right hand side is potentially problematic. Earnings include hours of work in its definition, and since hours of work are jointly determined with hours of housework and childcare, it could pose a problem to the estimates presented in Section 5. The fact that our dependent variable is the ratio of housework, rather than the absolute time spent in housework, makes this less of a problem. Nevertheless, we run the same regression as in Equation 1 controlling for hours of work to see to what extent hours of work matter for the main results in Section 5. The survey asks the respondent about the usual number of hours worked per week. As is commonly done in the literature, we adjust this variable to be a daily measure by dividing it by seven. Panel C in Table 10 shows the results from estimating Equation 1 for housework and *routine childcare* respectively, with the spouses’ hours of work as an additional control. Results are qualitatively similar to those found in Section 5, which suggests that the main results are not due to different hours of work along the relative earnings distribution.

5.3.4 Parents of children under five

Given that the constraints in childcare parents with smaller children face are different from that of parents whose children are already of school age, the last robustness check limits the analysis to the sample of parents with children under five. Childcare services in Spain are typically inad-

⁷Standard errors are calculated using non-parametric bootstrapping, with 50 times resampling.

equate and characterized by extreme rigidity in the number of weekly hours available. Women do not relinquish responsibilities for the care of others when they become employed and, as a result, women are forced to work a "double shift". For help with early infant care, most mothers rely on members of their extended family (primarily grandmothers) or informal assistance from female friends or neighbors. Only two per cent of childcare slots for children between 0 and 3 are publicly funded, the lowest percentage in Europe (e.g., Carrasco and Rodriguez 2000). Panel D of Table 10 shows that the main results do not change.

6 Interpreting the Results

The results shown in Section 5 show no support for either comparative advantage or bargaining theories. We find evidence for *doing gender* in the case of housework, but not in the case of childcare specialization. Consistent with other studies, our findings suggest that a woman's relative share of housework decreases with her relative earnings only up to the point where her earnings are the same as her husband; her relative share then increases. However, a woman's share of childcare time displays a flat pattern with respect to the spouses' relative earnings. This last result is neither consistent with traditional theories of the household, nor with the *doing gender* hypothesis. It could, however, still be interpreted in light of gender roles, whereby women specialize in this type of caring activity regardless of their relative productivity or bargaining power.

In this section, we explore some further issues regarding the nature of gender roles, to shed some further light on the patterns of housework and childcare specialization found in Section 5. We pay particular attention to the nature of social norms, whether masculinity or femininity. We also look at systematic differences in the type of job held by women who earn more than their husbands and women who earn less than their husbands, that could be confounding the results. The last part of this section analyzes the role played by outsourcing, i.e. the purchase of household services in the market, in explaining the findings in Section 5.

6.1 Femininity vs. Masculinity Social Norms

Behavior with regard to home labor (housework or childcare) can be strongly influenced not just by gender norms (a generic term) but by particular norms of masculinity (men may feel that housework undermines their status) or norms of femininity (women may insist on primary

responsibility for children, due to their own internalized sense of self worth related to childcare). One possible way to look at this is to see if the total time devoted to housework and childcare activities by husbands and wives varies differently with relative earnings.

Panel A in Table 11 shows the estimated coefficients for the time devoted to *Housework* by men and women, respectively. We find that the time devoted to housework by the wife decreases as her relative earnings increase, but only up to the point where she earns the same as her husband. As in Section 5, the last row of each panel in Table 11 shows that a Wald test for the null hypothesis that β_0 is equal to β_1 cannot be rejected at the 90% level. In contrast to the results for wives, when we introduce some observed heterogeneity into the analysis, we fail to find any statistically significant effect of relative earnings on the time devoted by men to housework activities.

The results for housework are in line with those found in the US for the case of men, and in line with those found in Australia for the case of women. Indeed, Brines (1994) and Greenstein (2000) find a generally negative relationship between wives' economic dependence, and the number of hours of housework performed per week, and a weak positive relationship for husbands. This finding is interpreted as evidence that it is husbands, and not wives, who are subject to *gender display* or *doing gender*. Under this reasoning, in couples where the traditional structure of the breadwinner husband with a dependent wife is violated, it is the husband (and not the wife) who resorts to more traditional divisions of housework to achieve *gender accountability*, in terms of how he is viewed by his partner, by himself and by their friends. In contrast to the evidence from the US, Bittman, England, Folbre, Sayer, and Matheson (2003) find that, in Australia, it is the wife's housework time, not the husband's, which increases when the wife earns more. They interpret this finding as the result of different social norms in both countries. In particular, since women's employment is more secondary in Australia, the need to neutralize in the realm of home labor for women who deviate in the realm of market work is greater in Australia than it is in the US. Spain has one of the lowest female labor force participation rates among developed countries, and gender roles are deeply entrenched. It is thus not surprising that we observe that both men and women move to a more traditional division of labor once a wife earns more than her husband.

Panel B in Table 11 shows a symmetric picture of housework for the case of *routine childcare*. The time devoted to childcare by wives is not affected by relative earnings, whereas the time

men devote to childcare is non-linear in relative earnings. In particular, a husband devotes 28.5 more minutes per day to *routine childcare* if his wife earns the same as himself, in relation to husbands who earn more than their wives, but this positive effect only exists up to the point where the wife earns the same as the husband and remains constant beyond that.

Another approach to the relevance of norms of masculinity and femininity is proposed by Greenstein (2000), who postulates that the effect of social norms might be dependent on the gender ideology of each partner, i.e., each partner's individual attitudes with respect to the division of household labor. In particular, it may be that traditional husbands and wives who occupy nontraditional provider roles may feel compelled to resort to more traditional divisions of housework and childcare, but that nontraditional husbands and wives do not. In the UK, Yee-Kan (2008) uses data from several waves of the British Household Panel Survey (1993-2003) to examine the association of housework hours with relative income and gender role attitudes, and finds that the effect of relative income on housework time is diminished due to gendered expectations.

To explore this hypothesis further, we construct a dummy that proxies for attitudes regarding gender roles, and include this variable and its interaction with our relative earnings dummies in the Equation 1. Since the STUS contains no information on attitudes regarding the division of household labor, we construct our traditionality dummies in the following way. We consider that a woman is traditional if she does more housework than the average amount of housework done by women in her relative earnings group. For men, we construct this variable symmetrically, i.e., a man is considered to be traditional if he does less housework than the average amount of housework done by men in his relative earnings group. For childcare the definitions are symmetric.

Panel A of Table 12 shows the main results regarding housework. We find that the non-linear effect of relative earnings on relative housework is indeed mediated by attitudes regarding the household division of labor, and that it is the husband's attitudes which matter more than the wife's. It is in traditional couples, especially in couples where the husband is more traditional regarding the division of housework, where the share of housework fails to decrease as the wife's income surpasses the husband's income. However, we find that the share of housework decreases as the wife's income surpasses the husband's income in non-traditional couples. The fact that it is husband's attitudes regarding the division of housework that dominate, suggests that it is,

again, norms of masculinity that drive the results for housework, found in Section 5.1. Panel B of Table 12 shows the results for childcare. As with housework, there are also differential effects of relative earnings on childcare specialization, differing by how traditional is the couple. Unlike in the case of housework, however, the effect is dominated by the wife's attitudes. Whereas the relative amount of childcare falls for nontraditional women who earn more than their husbands, it remains constant if the wife is traditional. This result is consistent with the results shown previously for the absolute times of childcare that men and women do.

The evidence presented in Tables 11 and 12 suggest that femininity and masculinity norms matter for housework and childcare. However, although norms of masculinity seem to be more important for housework, norms of femininity dominate childcare. In the case of housework, the results are consistent with the notion that a husband loses identity when his wife earns more than him, because of the prescription held by most men that *men should earn more than their wives*. Equality in utility is restored when the wife undertakes more housework than her husband, given the prescription that men should not do women's work at home. Consistent with particular norms of masculinity that makes men feel that housework undermines their status, the husband continues to devote little time to housework, and this time is independent of his wife's relative earnings. Childcare, on the other hand, seems to be mostly driven by femininity roles. Women continue to devote a great deal of time to childcare activities, regardless of their relative earnings, consistent with particular norms of femininity that make women insist on the primary responsibility for children, due to their own internalized sense of self-worth in relation to childcare. Although husbands' time in childcare increases with relative earnings, it stops increasing when the wife earns more than the husband.

6.2 Nature of Paid Work

The raw data shows that women earning more than their husbands have higher education and higher absolute earnings than women who earn less than their husbands. Thus it is likely that women earning more than their husbands may have more demanding jobs than women earning less than their husbands. Pooling the sample of women with the different type of jobs together might then produce the artificial result of constant patterns of relative housework for all women, independent of their relative earnings. We tackle this issue by looking first at week-days and weekends separately, and then by looking directly at the demands of paid employment. We pay

particular attention to whether women have a supervisory role in their jobs and whether they work in the private or the public sector.

6.2.1 Week-days versus Weekend-days

One of the coefficients in Table 7 and Table 9 that is significant across all specifications is the indicator variable of whether it is a weekday or a weekend day. This result indicates that the time of the week when home labor is performed is important, and not taking into account the timing of activities could be misleading. During the weekend, spare time is greater, and as a result the time budget constraint that households face is less likely to bind. From an optimal point of view, we would expect that spouses make intertemporal substitutions of housework and childcare, and postpone some of these activities to the weekend whenever possible. To the extent that this substitution is more likely to occur among households where the woman earns more than the husband, pooling the sample of the week days and weekends together might then produce the artificial result of constant patterns of relative housework for all women, independent of their relative earnings. This is likely to occur if women who earn more than their husbands are more constrained during week-days, because for example they have more demanding jobs, and thus postpone some home labor to weekends.

In order to tackle this question, we divide the sample and estimate Equation 1 in two separate samples, the subsample of couples who filled out the diary on a week-day, and the subsample of couples who filled out the diary on a weekend-day. Panel A in Table 13 shows the results for housework over week-days and weekend-days respectively, and Panel B in in Table 13 shows the results for *routine childcare*. Although the qualitative results have not changed, there are some interesting patterns worth mentioning. First, the specialization ratio in childcare continues to be unaffected by the wife's relative earnings independently of the day of the week, thus confirming the results found in Section 5.2. Second, housework during week-days resembles the pattern observed in Section 5.1. As in the pooled sample, in most specifications we cannot reject the null hypothesis that β_0 is equal to β_1 at the 10 % level. Thus, during week-days, a woman's share of housework time decreases with relative earnings up to the point where she earns the same as her husband. Third, during weekend-days higher relative earning women actually increase their housework share compared to women who earn the same as their husbands. This last result is

in line with the *doing-gender* hypothesis.⁸ All these findings are consistent with the notion that women who earn more than their husbands postpone those home labor activities to the weekend, to the extent that it is possible. The fact that we find this is particularly so for housework, and not for childcare, is not surprising, given that childcare is more likely to be done routinely on a daily basis, whereas certain housework activities are more flexible in terms of their timing.

6.2.2 Type of Job

In this section we differentiate between women with more demanding jobs and women with less demanding jobs to see whether the impact on housework's hours of the other variables in the model remains the same across these two groups or whether the model describing these two groups is very different. We use the information in the survey of whether the woman holds a supervisory post in her job and whether the woman works in the private sector as two different characterizations of demanding jobs, and interact each of these variables with the dummy variable indicating that the wife earns more than her husband. Somewhat surprisingly in our sample only 13.76 percentage of women with supervisory jobs belong to the category woman earns more than the husband. Similarly, just 7.67 percentage of women working in the private sector belong to the category woman earns more than the husband.

Panel A in Table 14 shows the results when the supervisory dummy is added in the regression for housework and childcare respectively. The supervisory dummy is positive and significant, both for housework and childcare, indicating that women with supervisory jobs tend to have a higher share of home labor in general. The interaction with the dummy indicating that the wife earns more than her husband and the supervisory dummy is also significant. In fact, earning more than the husband stops being significant in the latter specifications, which suggests that for those women who earn more than their husbands, and work in a supervisory role, the number of hours in housework decrease. Thus, having a more demanding job as captured by a supervisory post decreases the amount of housework when the woman earns more than her husband, which suggests that it is women who earn more than their husbands and who do not hold a supervisory role in their jobs that are subject to the *doing gender* effect. Panel B in Table 14 shows the results when the private sector dummy is added in the regression for housework and childcare respectively. Being in the private sector increases the wife's share of housework

⁸One must be cautious when interpreting this result given that there are very few women with earnings higher than their husbands in our weekend sample.

and childcare. The interaction with the dummy indicating that the wife earns more than her husband is however not significant in any case. These results suggest that the *doing gender* effect occurs independently of whether women who earn more than their husbands is working in the private sector.

6.3 The Importance of Outsourcing

This section analyzes the role played by outsourcing, i.e. by the ability of households to purchase household services in the market, in explaining the findings in Section 5. Outsourcing is an important mediating variable between gender and housework or childcare. Indeed, one way households with higher incomes, in which women provide a large share of the income, resolve the gender conflict over unpaid work is through outsourcing certain household services. Thus, an alternative explanation to our findings could be that there are limits to outsourcing for higher income households where women earn more than their husbands, accounting for the lack of differentiation in the amount of relative home labor done between women who earn the same as their husbands, and women who earn more than their husbands.

Limits to outsourcing may arise for high-income households where the wife earns more than the husband, because they have reached a maximum point where outsourcing household services is no longer possible (or becomes increasingly expensive). Despite the data showing that households where the wife earns more than her husband outsource more, on average, than households where the wife earns less than her husband, it could still be that they are below their optimal level of outsourcing. Thus, women in these households still need to devote relatively more time to housework than women who earn less than their husbands.

Distinguishing between the *doing gender* and the *limits to outsourcing* hypothesis is important, because the policy implications may be very different depending on what gives rise to limits on outsourcing. The idea of *doing gender* appears to argue that women *voluntarily* choose to maintain domestic hours in order to preserve a female gender identity, whereas the limits on outsourcing suggest that women do not decrease their domestic hours because they are unable to outsource anymore, and men are still unwilling to help out more. The former calls for policies aiming at changing social norms, whereas the latter calls for policies that make the outsourcing of household services possible, for example by making the market for household services more

transparent.⁹

One possible way to explore the *limits to outsourcing* hypothesis is to look at whether the effect of relative earnings is different for households with higher incomes. If the level of outsourcing is somehow intermediating the relationship between relative earnings and the specialization ratio, we should only expect to see the *doing gender* effect for high-income households (i.e., those households who have limits to outsource). To check this possibility, we interact the earnings dummy indicating that a woman earns more than her husband, with a dummy indicating that the household has an income that is above the mean. Panel A of Table 15 shows the results for housework, and Panel B for childcare. In both cases, we find no differential effect between rich and poor households, meaning that the non-linearities in relative earnings are independent of whether the household is rich or poor.

Another possible way to explore the *limits to outsourcing* hypothesis is to include outsourcing as a left hand side variable, and see how female relative earnings affect the degree of outsourcing, controlling for other factors. If there are limits to outsourcing affecting women earning more than their husbands, we should expect to see non-linearities in the effect of relative earnings on the level of outsourcing. Outsourcing of housework activities is defined in three different ways. First, we construct outsourcing as the number of hours that a person outside the household spends in cooking, cleaning, shopping, and repairing clothes for the household. This outside help might be either paid or unpaid, and refers to the last four weeks before the diary is completed. There are 7% of households receiving outside help in cooking, 19% receiving outside help in household maintenance, and 3% and 4% receiving outside help in shopping and mending clothes, respectively. Our second definition of outsourcing is the number of hours that a housekeeper works (for pay) in the household. Finally, we also define outsourcing of childcare as any outside help received by the household in the caring of children, and use that definition for our sample of parents. About 56 % of households with children under 10 report any outside help with childcare.¹⁰

Table 16 shows the results of estimating a Tobit model of outsourcing. The dependent variable in Panel A is the number of hours received by the household by a third party in help

⁹Only in the case where limits to outsourcing are rooted on social norms regarding the gender division of labor, the policy implications of doing gender and limits to outsourcing may coincide.

¹⁰There are low reported levels of outside help for some activities, such as repairs or maintenance. These low levels may reflect the fact that these activities are usually outsourced to firms, and the survey only collects information on outside help received by a person, and not by a company or the public administration.

with housework activities. The dependent variable in Panel B is the number of hours worked by a housekeeper, and the number of hours received in help with childcare from outside the household is the dependent variable in panel C. We find no statistically significant correlations of women's relative earnings in neither the levels of outside help in household production activities and childcare, nor the level of paid housekeeping. Interestingly, the relative earnings coefficients cease to be significant when the education of the spouses is included in the analysis. This result suggests that education, rather than relative earnings, is more important for deciding on the level of outsourcing, which could indicate that preferences rather than relative earnings determine the chosen level of outsourcing.

7 Conclusion

This paper examines the role of the *doing gender* hypothesis versus traditional models of the household in explaining the relative female share of home labor. Our findings yield no support for the hypothesis that the division of home labor is driven either by comparative advantage or bargaining. Systematic differences in household production and tastes do not seem to explain the empirical facts. Consistent with other studies, our findings suggest that a woman's relative share of housework fails to decrease with her relative earnings beyond the point where her earnings are the same as her husband. Our main finding for housework specialization yields support for the *doing gender* theories, which predict that when men earn less than their wives a gender norm violation occurs, and thus either the wife, the husband or both move to more traditional behavior in the realm of housework, in order to neutralize this deviance.

In contrast to what is found for housework, a woman's share of childcare time displays a flat pattern with respect to the spouses' relative earnings. This result is neither consistent with traditional theories of the household, nor with the *doing gender* hypothesis. Our findings regarding childcare can, however, still be interpreted in light of social norms, whereby women specialize in this type of caring activity, regardless of their relative productivity or bargaining power. In fact, we find that norms of masculinity seem to be more important for the household allocation of time to housework, whereas norms of femininity dominate childcare allocations. This finding is consistent with the notion that men may feel that housework undermines their status, whereas women may insist on primary responsibility for children due to their own internalized sense of self-worth related to child care.

We find evidence suggesting that women who earn more than their husbands also have more demanding and time-constraining jobs. Thus, they postpone some housework to the weekend when the *doing-gender* display occurs. The specialization ratio in childcare continues to be unaffected by the wife's relative earnings, independently of the day of the week, which suggests that childcare is more difficult to shift from week-days to weekends. We find evidence suggesting that it is women who earn more than their husbands and who do not hold a supervisory role in their jobs that are subject to the *doing gender* effect, although we do not find working in the private or the public sector to make a difference. We also rule out the possibility that the lack of differentiation in the amount of relative home labor done between women who earn the same as their husbands, and women who earn more than their husbands, is due to the presence of limits to the levels of outsourcing for higher income households, where women earn more than their husbands.

Although the results found in this paper are consistent with the *doing gender* hypothesis, we cannot rule out that limits on bargaining are also part of the explanation. Teasing out these two hypotheses seems a formidable task beyond the scope of this paper. However, to the extent that gender roles limit what can be bargained over (see Agarwal 1997), the policy implications of *doing-gender* and *limits to bargaining* may be very similar. Both explanations will justify social policies aimed at changing the *associated prescriptions* to what it means to be a man, and what it means to be a woman -in the language of identity models-, or at changing *gender norms* -in *doing gender* parlance-. Gender norms and stereotypes are indeed amenable to change. Some studies have shown that increasing women's access to income brings about more gender equality by exerting an independent effect on gender norms and stereotypes (Seguino 2007). The social psychology literature also provides evidence that attitudes reflecting underlying norms are also responsive to political and economic transitions (e.g., Diekman, Goodfriend, and Goodwin 2004, Diekman, Eagly, Mladinic, and Ferreira 2005). This in turn may increase the ability of women to work in the market, and consequently to access the economic resources in the first place. Policies facilitating women's entrance into high-status positions and leadership roles, policies that change social institutions that embody and perpetuate gender-role definitions, or family policies that challenge the existing gender structure, such as paternity leave policies, may constitute a good starting point in order to successfully shift the household division of labor in a more egalitarian direction.

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A Appendix A:

TABLE A-1: CLASSIFICATION OF ACTIVITIES IN STUS¹

ACTIVITIES
PERSONAL CARE
Sleep
Food and drink
Other personal care
WORK
Main job
Secondary job
Activities related to work
STUDIES
From school to college
Studies during free time
HOUSEHOLD AND FAMILY
Cooking activities
Household maintenance
Clothing care
Gardening and pets
Construction and repairs
Shopping and services
Household management
Childcare
Playing with children
Basic childcare
Help to adult members
VOLUNTARY WORK AND MEETINGS
For an organization
Informal help to other households
Participative activities
SOCIAL LIFE AND RECREATION
Recreation and culture
Passive leisure
SPORTS AND OUTDOOR ACTIVITIES
Physical Activity
Productive Physical Activity
Activities related to sports
HOBBIES AND GAMES
Artistic hobbies
Hobbies
Games
COMUNICATION MEDIA
Reading
TV and video
Radio and music
TRIPS AND NO SPECIFIC TIME USE
Trips with an objective
Pleasure driving
Auxiliar codes

Notes: ¹Source: Spanish Time Use Survey 2002-2003.

B Appendix B:

TABLE B-1: DISTRIBUTION OF ACTIVITIES DONE WITH CHILDREN UNDER 10 PRESENT^{1,2,3}

Activity	Type	Husbands			Wives		
		%	Mean (fraction who report time>0)	Mean (whole sample)	%	Mean (fraction who report time>0)	Mean (whole sample)
PERSONAL CARE	R	72.20%	75.93	54.86	82.90%	79.85	66.21
Sleep	R	3.80%	165.90	6.32	5.80%	113.43	6.55
Food and Drink	R	69.40%	64.11	44.51	80.20%	65.76	52.76
Other personal care	R	19.00%	21.24	4.03	28.00%	24.63	6.90
WORK	R	2.90%	80.01	2.30	4.10%	102.72	4.19
Main job	R	1.60%	83.97	1.35	3.20%	110.58	3.55
Secondary job	R	0.60%	122.59	0.79	0.30%	0.00	0.34
Activities related to work	R	0.60%	25.90	0.16	0.60%	50.70	0.29
STUDIES	R	0.90%	75.28	0.65	0.40%	18.93	0.08
From school to college	R	0.00%	0.00	0.00	0.40%	0.00	0.04
Studies during free time	R	0.90%	75.28	0.65	0.10%	0.00	0.05
HOUSEHOLD AND FAMILY	R	71.90%	115.88	83.31	92.20%	189.78	174.88
Cooking activities	R	36.60%	32.38	11.84	66.70%	50.91	33.97
Household maintenance	R	14.30%	39.49	5.66	39.10%	45.25	17.70
Clothing care	R	2.80%	17.82	0.51	20.90%	44.26	9.27
Gardening and pets	R	2.50%	64.13	1.59	2.00%	37.14	0.76
Construction and repairs	R	1.20%	51.99	0.64	1.30%	27.13	0.34
Shopping and services	R	12.80%	54.05	6.94	26.10%	54.86	14.34
Household management	R	0.20%	18.51	0.04	0.60%	17.60	0.10
Childcare	R	62.30%	86.10	53.67	83.80%	113.05	94.75
Playing with children	L	27.70%	55.98	15.51	27.60%	52.33	14.45
Basic childcare	R	57.20%	66.68	38.16	82.10%	97.80	80.31
Help to adult members	R	0.90%	70.55	0.62	0.60%	15.23	0.09
VOLUNTARY WORK AND MEETINGS	R	1.80%	56.19	1.02	2.40%	42.07	1.02
For an organization	R	0.00%	0.00	0.00	0.00%	0.00	0.00
Informal help to other households	R	0.50%	62.88	0.34	1.50%	36.42	0.55
Participative activities	R	1.30%	53.33	0.68	0.90%	51.37	0.47
SOCIAL LIFE AND RECREATION	R	33.00%	83.95	27.71	39.50%	71.24	28.11
Social life	L	24.40%	68.55	16.74	28.80%	59.80	17.24
Recreation and culture	L	2.50%	86.80	2.18	2.50%	82.33	2.04
Passive leisure	L	10.50%	84.09	8.79	13.30%	66.45	8.83
SPORTS AND OUTDOOR ACTIVITIES	R	18.10%	85.19	15.46	20.90%	74.20	15.51
Physic exercise	L	18.10%	84.98	15.37	20.50%	74.75	15.32
Productive exercise	L	0.10%	0.00	0.09	0.10%	0.00	0.09
Activities related to sports	L	0.00%	0.00	0.00	0.40%	29.32	0.10
HOBBIES AND GAMES	L	2.80%	67.13	1.85	1.50%	62.31	0.95
Artistic hobbies	L	0.00%	0.00	0.04	0.00%	0.00	0.00
Hobbies	L	1.90%	60.80	1.18	0.90%	52.50	0.49
Games	L	0.90%	69.58	0.63	0.60%	77.97	0.46
COMUNICATION MEDIA	L	37.60%	78.87	29.65	27.70%	68.23	18.93
Reading	L	3.20%	39.98	1.28	3.40%	46.72	1.59
TV and video	L	35.30%	79.68	28.11	25.90%	66.51	17.24
Radio and music	L	0.90%	29.40	0.26	0.10%	92.26	0.11
TRIPS AND NO SPECIFIC TIME USE	R	49.80%	45.65	22.75	70.50%	47.84	33.73
Trips with an objective	R	49.50%	44.54	22.03	70.40%	47.19	33.22
Pleasure driving	L	0.40%	82.81	0.36	0.20%	114.59	0.17
Auxiliary codes	R	1.20%	29.95	0.37	1.00%	34.91	0.34

Notes: ¹ Sample consists of individuals between 20 and 65 who are married, where both spouses work full-time, report positive earnings, and report a usual day ²Original personal weights included in the STUS (2002-2003) ³ R=Routine L=Leisure.

TABLE 1: COMPARISON OF EPA AND STUS¹

	EPA 2000			Time Use		
	Both	Men	Women	Both	Men	Women
Sex	100%	48.56%	51.44%	100%	48.66%	51.34%
Age Groups						
from 16 to 19	5.43%	5.73%	5.14%	5.55%	5.68%	5.42%
from 20 to 24	8.43%	8.86%	8.02%	8.46%	8.91%	8.03%
from 25 to 29	10.08%	10.58%	9.62%	10.58%	11.12%	10.08%
from 30 to 35	10.13%	10.63%	9.66%	9.75%	10.26%	9.27%
from 35 to 39	9.75%	10.15%	9.37%	9.94%	10.23%	9.66%
from 40 to 44	8.94%	9.22%	8.68%	8.95%	9.18%	8.74%
from 45 to 49	7.85%	8.04%	7.67%	7.95%	8.23%	7.70%
from 50 to 54	7.09%	7.22%	6.97%	7.13%	7.20%	7.07%
from 55 to 59	6.65%	6.68%	6.61%	6.54%	6.62%	6.46%
from 60 to 64	5.56%	5.49%	5.63%	5.59%	5.43%	5.74%
from 65 to 69	5.86%	5.44%	6.25%	6.43%	6.09%	6.76%
more than 70	14.22%	11.95%	16.37%	13.12%	11.05%	15.07%
Marital Status						
Single	31.05%	35.19%	27.15%	30.27%	33.76%	26.96%
Married	58.61%	60.32%	57.00%	59.55%	61.39%	57.80%
Widow	7.58%	2.54%	12.33%	7.28%	2.54%	11.77%
Divorced	2.76%	1.96%	3.52%	2.91%	2.32%	3.47%
Education Level						
No Education	2.94%	1.88%	3.93%	2.69%	1.61%	3.72%
Primary Education	35.61%	33.31%	37.79%	28.61%	26.53%	30.57%
Secondary Education (1st. stage)	25.04%	27.10%	23.09%	30.37%	31.56%	29.25%
Secondary Education (2nd. stage)	16.86%	17.25%	16.50%	17.04%	17.95%	16.17%
Secondary Education (2nd. stage plus professional training)	0.11%	0.12%	0.10%	6.53%	7.51%	5.61%
College	19.19%	20.01%	18.43%	14.29%	14.18%	14.41%
PhD	0.24%	0.32%	0.17%	0.46%	0.65%	0.27%
Employment Status						
Labor Force Participation	54.87%	67.28%	43.15%	56.19%	68.53%	44.49%
Unemployment	11.12%	7.95%	15.79%	10.43%	7.48%	14.73%

Notes: ¹Sources: *Encuesta de Poblacion Activa* 2000 and STUS (2002-2003).

TABLE 2: SUMMARY STATISTICS^{1,2,3}

Demographic and Economic Variables	All Sample		Sample Parents Children <10	
	<i>Mean</i>	<i>SE</i>	<i>Mean</i>	<i>SE</i>
Husband's age	42.195	(8.727)	38.254	(5.526)
Wife's age	39.935	(8.271)	36.194	(4.881)
Husband's years of education	10.697	(3.796)	11.464	(3.781)
Wife's years of education	11.053	(3.876)	11.928	(3.772)
Number of children 0-2	0.144	(0.375)	0.378	(0.532)
Number of children 3-5	0.156	(0.382)	0.400	(0.528)
Number of children 6-12	0.388	(0.643)	0.746	(0.763)
Number of children 13-17	0.252	(0.502)	0.169	(0.429)
Log Number of family members	1.199	(0.306)	1.318	(0.196)
Husband's Personal Income 0-500 Euros	0.030	(0.170)	0.027	(0.163)
Husband's Personal Income 500-1000 Euros	0.296	(0.457)	0.280	(0.449)
Husband's Personal Income 1000-1500 Euros	0.426	(0.495)	0.444	(0.497)
Husband's Personal Income 1500-2000 Euros	0.147	(0.354)	0.151	(0.358)
Husband's Personal Income 2000-2500 Euros	0.054	(0.227)	0.044	(0.205)
Husband's Personal Income 2500-3000 Euros	0.020	(0.139)	0.021	(0.143)
Husband's Personal Income 3000+ Euros	0.027	(0.163)	0.034	(0.180)
Wife's Personal Income 0-500 Euros	0.166	(0.372)	0.146	(0.353)
Wife's Personal Income 500-1000 Euros	0.434	(0.496)	0.444	(0.497)
Wife's Personal Income 1000-1500 Euros	0.259	(0.438)	0.255	(0.436)
Wife's Personal Income 1500-2000 Euros	0.096	(0.294)	0.110	(0.314)
Wife's Personal Income 2000-2500 Euros	0.031	(0.174)	0.026	(0.161)
Wife's Personal Income 2500-3000 Euros	0.006	(0.076)	0.010	(0.097)
Wife's Personal Income 3000+ Euros	0.009	(0.093)	0.009	(0.094)
Wife earns the same as husband	0.392	(0.488)	0.421	(0.494)
Wife earns more than husband	0.102	(0.303)	0.092	(0.289)
Household Income 0-500 Euros	0.007	(0.085)	0.004	(0.064)
Household Income 500-1000 Euros	0.020	(0.139)	0.028	(0.166)
Household Income 1000-1500 Euros	0.146	(0.353)	0.157	(0.364)
Household Income 1500-2000 Euros	0.241	(0.428)	0.247	(0.432)
Household Income 2000-2500 Euros	0.229	(0.420)	0.231	(0.422)
Household Income 2500-3000 Euros	0.133	(0.339)	0.129	(0.336)
Household Income 3000-3500 Euros	0.193	(0.395)	0.176	(0.381)
Household Income 3500+ Euros	0.032	(0.175)	0.026	(0.159)
Microwave	0.846	(0.361)	0.861	(0.346)
Dishwasher	0.536	(0.499)	0.581	(0.494)
Dryer	0.269	(0.444)	0.322	(0.468)
Separate Freezer	0.269	(0.444)	0.247	(0.431)
Paid Housekeeper	0.203	(0.402)	0.296	(0.457)
Outsourcing of Food Preparation	0.066	(0.248)	0.098	(0.298)
Outsourcing of Household Maintenance	0.189	(0.391)	0.238	(0.426)
Number Observations	2008		736	

Notes: ¹Standard deviations in brackets ²Sample consists of individuals between 20 and 65 who are married, where both spouses work full-time, report positive earnings, and report a usual day. The sample of parents is restricted to couples with children under 10 ³Source: STUS 2002-2003.

TABLE 3: DAILY MINUTES DEVOTED TO HOUSEWORK (ALL SAMPLE)^{1,2}

	Husbands			Wives		
	%	Mean (fraction who report time>0)	Mean (whole sample)	%	Mean (fraction who report time>0)	Mean (whole sample)
Housework time (minutes per day)						
Total Housework	77.63%	111.72	86.72	99.15%	214.95	214.93
Cooking	61.57%	46.5	28.63	94.37%	94.43	89.11
Cleaning	37.16%	49.68	18.46	82.99%	72.19	59.91
Laundry	4.79%	33.67	1.61	46.47%	52.79	24.53
Gardening and Pets	11.77%	81.33	9.58	7.84%	48.52	3.8
Maintenance and Repairs	7.29%	67.23	4.9	2.30%	58.33	1.34
Shopping	29.88%	76.48	22.85	49.83%	71.93	35.84
Household Management	1.90%	36.31	0.69	0.95%	40.96	0.39
Observations		2008			2008	

Notes: ¹Source: STUS 2002-2003 ²Sample consists of individuals between 20 and 65 who are married, where both spouses work full-time, report positive earnings, and report a usual day.

TABLE 4: HOUSEWORK AND MARKET WORK BY RELATIVE EARNINGS^{1,2,3,4}

	Husband	Wife	Ratio	Obs.
Net Monthly earnings		Daily minutes	of <i>housework</i>	
Wife earns less than husband	82.36 (98.96)	228.53 (126.39)	0.76 (0.22)	1017
Wife earns the same as husband	92.30 (101.85)	204.33 (124.40)	0.71 (0.25)	792
Wife earns more than husband	86.90 (84.11)	188.57 (112.67)	0.68 (0.24)	199
		Daily minutes	of <i>Market Work</i>	
Wife earns less than husband	406.97 (245.90)	310.42 (208.95)	0.84 (2.04)	1017
Wife earns the same as husband	390.49 (246.55)	331.38 (214.66)	0.83 (0.57)	792
Wife earns more than husband	406.47 (221.55)	334.33 (196.55)	0.93 (1.07)	199

Notes: ¹Standard deviations in brackets ²Ratios are defined as the amount of time devoted by the wife to Housework/Market Work, divided by the sum of the time devoted to Housework/Market Work by both spouses ³Sample consists of individuals between 20 and 65 who are married, where both spouses work full-time, report positive earnings, and report a usual day ⁴Source: STUS 2002-2003

TABLE 5: DAILY MINUTES DEVOTED TO CHILDCARE (SAMPLE OF PARENTS)^{1,2,3}

	Husbands			Wives		
	%	Mean (fraction who report time>0)	Mean (whole sample)	%	Mean (fraction who report time>0)	Mean (whole sample)
Childcare						
<i>childcare1</i>	71.70%	100.71	72.21	90.00%	142.29	128.11
<i>childcare2</i>	73.10%	112.05	81.96	91.10%	156.76	142.82
<i>childcare3</i>	92.00%	274.00	251.99	97.40%	374.27	364.54
<i>routine childcare</i>	90.80%	175.65	159.53	97.30%	293.08	285.10
<i>leisure childcare</i>	69.60%	132.16	92.04	70.10%	111.11	77.91
Observations		736			736	

Notes: ¹Source: STUS 2002-2003 ²Sample consists of individuals between 20 and 65 who are married, where both spouses work full-time, report positive earnings, report a usual day, and with children under 10 in the household ³*childcare1* measures the time devoted to childcare activities reported as a primary activity, *childcare2* measures the time devoted to any childcare activity either as primary or secondary activity, *childcare3* uses information on whether a child of ten years of age or younger was present while doing the main diary activity plus *childcare2*, *routine childcare* is the sum of any time devoted to childcare reported as either primary or secondary activity (except playing with a child), and any other primary non-leisure activities (cleaning, shopping, eating, etc.) performed in the company of a young child, and *leisure childcare* is the sum of any time devoted to leisure activities (including playing with children) reported as a primary activity and performed in the company of a child.

TABLE 6: CHILDCARE BY RELATIVE EARNINGS^{1,2,3,4,5}

	Husband	Wife	Ratio	Obs.
<i>Daily minutes of childcare1</i>				
Wife earns less than husband	66.65 (77.51)	124.80 (100.77)	0.68 (0.28)	356
Wife earns the same as husband	75.15 (81.92)	130.42 (109.41)	0.65 (0.27)	308
Wife earns more than husband	88.67 (95.36)	135.03 (99.37)	0.67 (0.26)	72
<i>Daily minutes of childcare2</i>				
Wife earns less than husband	75.10 (88.07)	138.62 (109.83)	0.68 (0.28)	356
Wife earns the same as husband	86.91 (98.85)	143.59 (122.52)	0.64 (0.28)	308
Wife earns more than husband	95.91 (100.60)	161.66 (126.21)	0.69 (0.25)	72
<i>Daily minutes of childcare3</i>				
Wife earns less than husband	254.52 (219.18)	370.34 (224.97)	0.62 (0.20)	356
Wife earns the same as husband	247.21 (208.03)	358.35 (204.71)	0.62 (0.20)	308
Wife earns more than husband	260.71 (240.47)	362.39 (218.72)	0.64 (0.20)	72
<i>Daily minutes of routine childcare</i>				
Wife earns less than husband	156.55 (139.27)	292.75 (185.35)	0.67 (0.20)	356
Wife earns the same as husband	162.11 (137.30)	278.14 (165.40)	0.65 (0.19)	308
Wife earns more than husband	163.56 (152.49)	276.71 (164.97)	0.67 (0.21)	72
<i>Daily minutes of leisure childcare</i>				
Wife earns less than husband	97.45 (115.23)	75.86 (93.86)	0.44 (0.31)	356
Wife earns the same as husband	84.76 (109.97)	79.62 (99.41)	0.54 (0.34)	308
Wife earns more than husband	96.97 (116.12)	80.83 (91.76)	0.47 (0.47)	72

Notes: ¹Source: STUS 2002-2003 ²Standard deviations in brackets ³Ratios are defined as the amount of time devoted by the wife to childcare divided by the sum of the time devoted to childcare by both spouses ⁴Sample consists of individuals between 20 and 65 who are married, where both spouses work full-time, report positive earnings, report a usual day, and with children under 10 in the household ⁵ *Childcare1* measures the time devoted to childcare activities reported as a primary activity, *childcare2* measures the time devoted to any childcare activity either as primary or secondary activity, *childcare3* uses information on whether a child of ten years of age or younger was present while doing the main diary activity plus *childcare2*, *routine childcare* is the sum of any time devoted to childcare reported as either primary or secondary activity (except playing with a child), and any other primary non-leisure activities (cleaning, shopping, eating, etc.) performed in the company of a young child, and *leisure childcare* is the sum of any time devoted to leisure activities (including playing with children) reported as a primary activity and performed in the company of a child.

TABLE 7: THE DIVISION OF HOUSEWORK^{1,2,3,4}

Ratio of <i>housework</i>	(1)	(2)	(3)	(4)	(5)	(6)
Wife earns same than husband	-0.056** (0.014)	-0.058** (0.014)	-0.056** (0.014)	-0.050** (0.014)	-0.050** (0.014)	-0.050** (0.014)
Wife earns more than husband	-0.106** (0.023)	-0.099** (0.023)	-0.088** (0.023)	-0.075** (0.023)	-0.070** (0.023)	-0.075** (0.023)
Household Income 500 – 1000 Euros	-	-0.084 (0.098)	-0.015 (0.097)	-0.038 (0.097)	-0.059 (0.097)	-0.051 (0.097)
Household Income 1000 – 1500 Euros	-	-0.226** (0.086)	-0.149 (0.085)	-0.162 (0.085)	-0.185* (0.085)	-0.172* (0.085)
Household Income 1500 – 2000 Euros	-	-0.231** (0.086)	-0.165 (0.084)	-0.168* (0.085)	-0.194* (0.085)	-0.177* (0.085)
Household Income 2000 – 2500 Euros	-	-0.262** (0.086)	-0.204* (0.084)	-0.189* (0.085)	-0.216* (0.085)	-0.202* (0.085)
Household Income 2500 – 3000 Euros	-	-0.272** (0.087)	-0.231** (0.085)	-0.206* (0.086)	-0.235** (0.086)	-0.216* (0.087)
Household Income 3000 – 3500 Euros	-	-0.215* (0.086)	-0.188* (0.084)	-0.145 (0.085)	-0.181* (0.085)	-0.164 (0.086)
Household Income 3500+ Euros	-	-0.234* (0.093)	-0.223* (0.091)	-0.164 (0.092)	-0.203* (0.092)	-0.187* (0.093)
Wife's age	-	-	0.004 (0.002)	0.004 (0.002)	0.003 (0.002)	0.003 (0.002)
Husband's age	-	-	0.003 (0.002)	0.002 (0.002)	0.001 (0.002)	0.001 (0.002)
Wife's years of education	-	-	-	-0.005* (0.002)	-0.004 (0.002)	-0.004 (0.002)
Husband's years of education	-	-	-	-0.006** (0.002)	-0.006** (0.002)	-0.006* (0.002)
Number of children 0 – 2	-	-	-	-	-0.016 (0.021)	-0.011 (0.021)
Number of children 3 – 5	-	-	-	-	-0.018 (0.020)	-0.016 (0.020)
Number of children 6 – 12	-	-	-	-	0.004 (0.013)	0.006 (0.013)
Number of children 13 – 17	-	-	-	-	-0.003 (0.016)	-0.002 (0.016)
Log Number of family members	-	-	-	-	0.132** (0.037)	0.138** (0.037)
Paid housekeeper	-	-	-	-	-	-0.043 (0.028)
Microwave	-	-	-	-	-	0.001 (0.019)
Dishwasher	-	-	-	-	-	-0.031* (0.015)
Dryer	-	-	-	-	-	-0.019 (0.015)
Independent freezer	-	-	-	-	-	-0.005 (0.015)
Outsourcing of Food Preparation	-	-	-	-	-	-0.022 (0.027)
Outsourcing of Household Maintenance	-	-	-	-	-	0.087** (0.028)
Week day observation	0.101** (0.015)	0.098** (0.015)	0.103** (0.014)	0.106** (0.014)	0.110** (0.014)	0.110** (0.014)
Region Dummies	yes	yes	yes	yes	yes	yes
Constant	0.771** (0.023)	1.007** (0.089)	0.655** (0.096)	0.823** (0.102)	0.743** (0.104)	0.749** (0.106)
Observations	2008	2008	2008	2008	2008	2008
R-Squared	0.06	0.07	0.11	0.12	0.14	0.15
$p > F\beta_0 = \beta_1$	0.0	0.08	0.17	0.28	0.40	0.28

Notes: ¹Robust standard errors in brackets ²Sample consists of individuals between 20 and 65 who are married, where both spouses work full-time, report positive earnings, and report a usual day ³We estimate the following equation: $h_i = w_{i0}\beta_0 + w_{i1}\beta_1 + X_i\gamma$, where the dependent variable is the degree of specialization, measured by the wife's share of time h_i in any given household i to housework, and is defined as $h_i = \frac{H_{i,f}}{H_{i,f} + H_{i,m}}$, for $H_{i,f}$ and $H_{i,m}$ the wife and the husband's time in housework. We report weighted Tobit estimators ⁴*Significant at the 5% level **Significant at the 1% level.

TABLE 8: THE DIVISION OF *childcare2*^{1,2,3,4}

Ratio of <i>childcare2</i>	(1)	(2)	(3)	(4)	(5)	(6)
Wife earns same than husband	-0.053 (0.034)	-0.036 (0.034)	-0.037 (0.034)	-0.039 (0.035)	-0.037 (0.035)	-0.037 (0.034)
Wife earns more than husband	-0.002 (0.058)	0.006 (0.060)	0.005 (0.060)	-0.001 (0.060)	-0.006 (0.060)	-0.028 (0.060)
Household Income 500 – 1000 Euros	-	0.533* (0.259)	0.524* (0.261)	0.524* (0.264)	0.484 (0.264)	0.557* (0.264)
Household Income 1000 – 1500 Euros	-	0.437 (0.243)	0.432 (0.243)	0.433 (0.246)	0.400 (0.246)	0.484* (0.246)
Household Income 1500 – 2000 Euros	-	0.523* (0.242)	0.517* (0.243)	0.518* (0.245)	0.491* (0.245)	0.581* (0.246)
Household Income 2000 – 2500 Euros	-	0.454 (0.242)	0.449 (0.243)	0.448 (0.244)	0.424 (0.243)	0.516* (0.245)
Household Income 2500 – 3000 Euros	-	0.450 (0.244)	0.446 (0.245)	0.446 (0.245)	0.427 (0.245)	0.542* (0.247)
Household Income 3000 – 3500 Euros	-	0.504* (0.243)	0.501* (0.243)	0.502* (0.243)	0.461 (0.243)	0.565* (0.245)
Household Income 3500+ Euros	-	0.364 (0.260)	0.362 (0.260)	0.362 (0.260)	0.311 (0.260)	0.419 (0.262)
Wife's age	-	-	-0.001 (0.006)	-0.001 (0.006)	-0.002 (0.006)	-0.002 (0.006)
Husband's age	-	-	0.000 (0.005)	0.000 (0.005)	-0.001 (0.005)	0.000 (0.005)
Wife's years of education	-	-	-	0.003 (0.006)	0.003 (0.006)	0.003 (0.006)
Husband's years of education	-	-	-	-0.003 (0.006)	-0.002 (0.006)	0.000 (0.006)
Number of children 0 – 2	-	-	-	-	0.078 (0.060)	0.098 (0.060)
Number of children 3 – 5	-	-	-	-	0.031 (0.057)	0.051 (0.058)
Number of children 6 – 12	-	-	-	-	0.055 (0.052)	0.072 (0.053)
Number of children 13 – 17	-	-	-	-	0.035 (0.061)	0.046 (0.061)
Log Number of family members	-	-	-	-	0.057 (0.179)	0.011 (0.182)
Paid housekeeper	-	-	-	-	-	-0.057 (0.053)
Microwave	-	-	-	-	-	-0.066 (0.048)
Dishwasher	-	-	-	-	-	-0.020 (0.038)
Dryer	-	-	-	-	-	-0.061 (0.037)
Separate freezer	-	-	-	-	-	-0.052 (0.038)
Outsourcing of Food Preparation	-	-	-	-	-	0.043 (0.057)
Outsourcing of Household Maintenance	-	-	-	-	-	0.035 (0.053)
Week day observation	0.185** (0.053)	0.184** (0.249)	0.183** (0.285)	0.183** (0.302)	0.191** (0.335)	0.190** (0.345)
Region Dummies	-0.035 yes	-0.035 yes	-0.035 yes	-0.035 yes	-0.035 yes	-0.035 yes
Constant	0.588** (0.053)	0.105 (0.249)	0.141 (0.285)	0.140 (0.302)	0.031 (0.335)	0.001 (0.345)
Observations	736	736	736	736	736	736
R-Squared	0.04	0.05	0.05	0.05	0.06	0.07
$p > F/\beta_0 = \beta_1$	0.39	0.48	0.48	0.52	0.60	0.88

Notes: ¹Robust standard errors in brackets ²Sample consists of individuals between 20 and 65 who are married, where both spouses work full-time, report positive earnings, report a usual day, and have at least one child under 10 ³We estimate the following equation: $h_i = w_{i0}\beta_0 + w_{i1}\beta_1 + X_i\gamma$, where the dependent variable is the degree of specialization, measured by the wife's share of time h_i in any given household i to *childcare2*, and is defined as $h_i = \frac{H_{i,f}}{H_{i,f}+H_{i,m}}$, for $H_{i,f}$ and $H_{i,m}$ the wife and the husband's time in *childcare2*. We report weighted Tobit estimators ⁴*Childcare2* measures the time devoted to any childcare activity either as primary or secondary activity ⁵*Significant at the 5% level **Significant at the 1% level.

TABLE 9: THE DIVISION OF *routine childcare*^{1,2,3,4,5}

Ratio of <i>routine childcare</i>	(1)	(2)	(3)	(4)	(5)	(6)
Wife earns same than husband	-0.029 (0.019)	-0.028 (0.019)	-0.029 (0.019)	-0.026 (0.019)	-0.024 (0.019)	-0.024 (0.019)
Wife earns more than husband	-0.038 (0.032)	-0.036 (0.033)	-0.037 (0.033)	-0.033 (0.033)	-0.036 (0.033)	-0.047 (0.033)
Household Income 500 – 1000 Euros	-	0.170 (0.146)	0.161 (0.147)	0.103 (0.149)	0.084 (0.148)	0.130 (0.149)
Household Income 1000 – 1500 Euros	-	0.147 (0.138)	0.141 (0.138)	0.091 (0.139)	0.076 (0.139)	0.130 (0.139)
Household Income 1500 – 2000 Euros	-	0.142 (0.137)	0.135 (0.138)	0.090 (0.138)	0.081 (0.138)	0.140 (0.139)
Household Income 2000 – 2500 Euros	-	0.136 (0.137)	0.130 (0.138)	0.101 (0.138)	0.092 (0.137)	0.155 (0.138)
Household Income 2500 – 3000 Euros	-	0.128 (0.139)	0.123 (0.139)	0.105 (0.139)	0.101 (0.138)	0.174 (0.140)
Household Income 3000 – 3500 Euros	-	0.156 (0.138)	0.155 (0.138)	0.146 (0.138)	0.131 (0.138)	0.202 (0.139)
Household Income 3500+ Euros	-	0.105 (0.147)	0.104 (0.147)	0.101 (0.146)	0.081 (0.147)	0.158 (0.148)
Wife's age	-	-	0.000 (0.003)	0.000 (0.003)	-0.001 (0.003)	-0.001 (0.003)
Husband's age	-	-	-0.002 (0.003)	-0.002 (0.003)	-0.002 (0.003)	-0.002 (0.003)
Wife's years of education	-	-	-	-0.005 (0.003)	-0.005 (0.003)	-0.005 (0.003)
Husband's years of education	-	-	-	-0.002 (0.003)	-0.002 (0.003)	-0.001 (0.003)
Number of children 0 – 2	-	-	-	-	0.066* (0.033)	0.077* (0.033)
Number of children 3 – 5	-	-	-	-	0.044 (0.031)	0.056 (0.032)
Number of children 6 – 12	-	-	-	-	0.056* (0.028)	0.067* (0.029)
Number of children 13 – 17	-	-	-	-	0.056 (0.033)	0.062 (0.033)
Log Number of family members	-	-	-	-	-0.084 (0.098)	-0.114 (0.099)
Paid housekeeper	-	-	-	-	-	-0.024 (0.029)
Microwave	-	-	-	-	-	-0.049 (0.027)
Dishwasher	-	-	-	-	-	-0.015 (0.021)
Dryer	-	-	-	-	-	-0.020 (0.020)
Separate freezer	-	-	-	-	-	-0.025 (0.021)
Outsourcing of Food Preparation	-	-	-	-	-	0.017 (0.031)
Outsourcing of Household Maintenance	-	-	-	-	-	-0.007 (0.030)
Week day observation	0.119** (0.019)	0.118** (0.019)	0.117** (0.019)	0.117** (0.019)	0.122** (0.019)	0.121** (0.019)
Region Dummies	yes	yes	yes	yes	yes	yes
Constant	0.602** (0.029)	0.459** (0.141)	0.539** (0.160)	0.668** (0.169)	0.707** (0.187)	0.700** (0.192)
Observations	736	736	736	736	736	736
R-Squared	0.17	0.18	0.18	0.20	0.22	0.25
$p > F\beta_0 = \beta_1$	0.77	0.80	0.81	0.83	0.71	0.50

Notes: ¹Robust standard errors in brackets ²Sample consists of individuals between 20 and 65 who are married, where both spouses work full-time, report positive earnings, report a usual day, and have at least one child under 10 ³We estimate the following equation: $h_i = w_{i0}\beta_0 + w_{i1}\beta_1 + X_i\gamma$, where the dependent variable is the degree of specialization, measured by the wife's share of time h_i in any given household i to *routine childcare*, and is defined as $h_i = \frac{H_{i,f}}{H_{i,f}+H_{i,m}}$, for $H_{i,f}$ and $H_{i,m}$ the wife and the husband's time in *childcare*. We report weighted Tobit estimators ⁴*Routine childcare* is the sum of any time devoted to childcare reported as either primary or secondary activity (except playing with a child), and any other primary non-leisure activities (cleaning, shopping, eating, etc.) performed in the company of a young child ⁵*Significant at the 5% level **Significant at the 1% level.

TABLE 10: OTHER ROBUSTNESS CHECKS^{1,2,3,4}

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Type of Housework						
			<i>Routine</i>	<i>housework</i>		
Wife earns same than husband	-0.052** (0.014)	-0.054** (0.014)	-0.052** (0.014)	-0.046** (0.014)	-0.045** (0.014)	-0.045** (0.014)
Wife earns more than husband	-0.116** (0.023)	-0.107** (0.023)	-0.094** (0.022)	-0.079** (0.023)	-0.074** (0.023)	-0.077** (0.023)
R-Squared	0.07	0.08	0.13	0.15	0.16	0.17
$p > F\beta_0 = \beta_1$	0.01	0.02	0.07	0.14	0.21	0.16
			<i>Sporadic</i>	<i>housework</i>		
Wife earns same than husband	0.100 (0.095)	0.050 (0.095)	0.040 (0.095)	0.080 (0.097)	0.080 (0.095)	0.070 (0.095)
Wife earns more than husband	0.150 (0.142)	0.150 (0.141)	0.130 (0.141)	0.210 (0.146)	0.180 (0.146)	0.180 (0.145)
R-Squared	0.06	0.07	0.08	0.08	0.38	0.12
$p > F\beta_0 = \beta_1$	0.72	0.49	0.54	0.38	0.49	0.43
Panel B: Imputed Monthly Earnings						
			<i>Housework</i>			
Ratio of imputed wage	-0.123** (0.022)	-0.113** (0.018)	-0.106** (0.024)	-0.092** (0.006)	-0.092** (0.022)	-0.094** (0.003)
Ratio of imputed wage - Squared	0.013** (0.003)	0.012** (0.003)	0.011** (0.004)	0.01 (0.025)	0.010* (0.005)	0.010** (0.020)
R-Squared	0.08	0.09	0.13	0.16	0.17	0.18
			<i>Childcare</i>			
Ratio of imputed wage	-0.074** (0.025)	-0.074** (0.027)	-0.074** (0.030)	-0.071** (0.005)	-0.069* (0.005)	-0.070* (0.003)
Ratio of imputed wage - Squared	0.006 (0.004)	0.005 (0.003)	0.005 (0.005)	0.005 (0.027)	0.005 (0.030)	0.005 (0.031)
R-Squared	0.26	0.28	0.29	0.33	0.36	0.39
Panel C: Hours of Work						
			<i>Housework</i>			
Wife earns same than husband	-0.036** (0.014)	-0.038** (0.014)	-0.036** (0.014)	-0.028* (0.014)	-0.028* (0.014)	-0.027* (0.014)
Wife earns more than husband	-0.084** (0.022)	-0.082** (0.022)	-0.070** (0.021)	-0.054* (0.022)	-0.050* (0.022)	-0.054* (0.022)
Husband's Hours of Work	0.653** (0.046)	0.649** (0.046)	0.637** (0.045)	0.620** (0.045)	0.609** (0.045)	0.610** (0.045)
Wife's Hours of Work	-0.418** (0.048)	-0.407** (0.048)	-0.423** (0.047)	-0.444** (0.047)	-0.434** (0.047)	-0.438** (0.047)
R-Squared	0.17	0.18	0.22	0.23	0.24	0.26
$p > F\beta_0 = \beta_1$	0.03	0.05	0.12	0.25	0.33	0.23
			<i>Childcare</i>			
Wife earns same than husband	-0.009 (0.018)	-0.008 (0.018)	-0.009 (0.018)	-0.005 (0.019)	-0.001 (0.018)	-0.001 (0.019)
Wife earns more than husband	-0.013 (0.031)	-0.015 (0.032)	-0.016 (0.032)	-0.008 (0.032)	-0.011 (0.032)	-0.020 (0.032)
Husband's Hours of Work	0.475** (0.061)	0.477** (0.061)	0.477** (0.061)	0.469** (0.062)	0.473** (0.062)	0.462** (0.062)
Wife's Hours of Work	-0.304** (0.064)	-0.305** (0.065)	-0.301** (0.065)	-0.323** (0.066)	-0.324** (0.066)	-0.320** (0.066)
R-Squared	0.37	0.37	0.38	0.39	0.42	0.44
$p > F\beta_0 = \beta_1$	0.89	0.82	0.82	0.90	0.75	0.57
Panel D: Parents with children < 5						
			<i>Housework</i>			
Wife earns same than husband	-0.116** (0.03)	-0.121** (0.03)	-0.124** (0.03)	-0.117** (0.03)	-0.117** (0.03)	-0.118** (0.029)
Wife earns more than husband	-0.09 (0.05)	-0.096 (0.05)	-0.099 (0.05)	-0.089 (0.05)	-0.089 (0.05)	-0.106* (0.05)
R-Squared	0.12	0.14	0.15	0.21	0.21	0.23
$p > F\beta_0 = \beta_1$	0.61	0.63	0.64	0.59	0.59	0.81
			<i>Childcare</i>			
Wife earns same than husband	-0.024 (0.022)	-0.019 (0.022)	-0.018 (0.022)	-0.015 (0.021)	-0.015 (0.021)	-0.017 (0.021)
Wife earns more than husband	-0.014 (0.036)	-0.008 (0.037)	-0.007 (0.037)	-0.005 (0.038)	-0.005 (0.038)	-0.02 (0.038)
R-Squared	2.07	2.53	2.55	3.35	0.79	3.85
$p > F\beta_0 = \beta_1$	0.79	0.76	0.76	0.79	0.79	0.92

Notes: ¹Robust standard errors in brackets ²Sample consists of individuals between 20 and 65 who are married, where both spouses work full-time, report positive earnings, and report a usual day, (and have at least one child under 10 for childcare) ³We estimate the following equation: $h_{i,k} = w_{i0}\beta_0 + w_{i1}\beta_1 + X_i\gamma$, where the dependent variable is the degree of specialization, measured by the wife's share of time $h_{i,k}$ in any given household i and home labor activity k , and is defined as $h_{i,k} = \frac{H_{i,f}}{H_{i,f} + H_{i,m}}$, for $H_{i,f}$ and $H_{i,m}$ the wife and the husband's time in home labor activity k . We report weighted Tobit estimators ⁴Specifications include relative wage indicators, and sample week and regional dummies (1 to 6), household income (2 to 6), partners' ages (3 to 6), partners' years of schooling (4 to 6), family composition indicators (5 to 6), and the presence of a housekeeper, household technology and outsourcing dummies (6) ⁵Significant at the 5% level **Significant at the 1% level.

TABLE 11: MASCULINITY VS. FEMININITY IN GENDER ROLES^{1,2,3,4,5}

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Housework						
	Wife					
Wife earns same than husband	-24.908** (5.817)	-25.444** (5.840)	-24.466** (5.697)	-22.346** (5.695)	-22.346** (5.695)	-23.097** (5.658)
Wife earns more than husband	-37.042** (9.435)	-34.427** (9.433)	-29.037** (9.225)	-23.151* (9.358)	-23.151* (9.358)	-23.726* (9.315)
Observations	2008	2008	2008	2008	2008	2008
R-Squared	0.01	0.01	0.01	0.01	0.01	0.01
$p > F\beta_0 = \beta_1$	0.21	0.35	0.63	0.93	0.93	0.94
	Husband					
Wife earns same than husband	12.301* (5.704)	12.334* (5.788)	12.004* (5.791)	10.856 (5.838)	10.856 (5.838)	10.778 (5.815)
Wife earns more than husband	16.407 (9.182)	16.133 (9.269)	14.113 (9.297)	9.197 (9.521)	9.197 (9.521)	11.979 (9.496)
Observations	2008	2008	2008	2008	2008	2008
R-Squared	0.01	0.01	0.01	0.01	0.01	0.01
$p > F\beta_0 = \beta_1$	0.66	0.69	0.82	0.86	0.86	0.90
Panel B: Childcare						
	Wife					
Wife earns same than husband	7.413 (8.774)	9.465 (8.792)	7.237 (8.653)	5.000 (7.687)	5.000 (7.687)	4.008 (7.690)
Wife earns more than husband	13.674 (15.074)	5.472 (15.237)	3.291 (14.972)	-2.972 (13.408)	-2.972 (13.408)	-5.442 (13.442)
Observations	736	736	736	736	736	736
R-Squared	0.01	0.01	0.01	0.01	0.02	0.02
$p > F\beta_0 = \beta_1$	0.26	0.43	0.42	0.34	0.34	0.39
	Husband					
Wife earns same than husband	28.917** (8.508)	27.869** (8.708)	29.034** (8.677)	27.746** (8.680)	27.746** (8.680)	28.558** (8.653)
Wife earns more than husband	12.094 (14.727)	15.832 (15.109)	16.928 (15.048)	13.356 (15.212)	13.356 (15.212)	15.571 (15.213)
Observations	736	736	736	736	736	736
R-Squared	0.01	0.01	0.01	0.03	0.03	0.04
$p > F\beta_0 = \beta_1$	0.68	0.79	0.79	0.55	0.55	0.48

Notes: ¹Robust standard errors in brackets ²Sample consists of individuals between 20 and 65 who are married, where both spouses work full-time, report positive earnings, and report a usual day, (and have at least one child under 10 for childcare) ³We estimate the following equation: $H_i = w_{i0}\beta_0 + w_{i1}\beta_1 + X_i\gamma$, where the dependent variable is the time devoted in any given household i by the wife ($H_{i,f}$) or the husband ($H_{i,m}$) to housework or *childcare2*. We report weighted Tobit estimators ⁴Specifications include relative wage indicators, and sample week and regional dummies (1 to 6), household income (2 to 6), partners' ages (3 to 6), partners' years of schooling (4 to 6), family composition indicators (5 to 6), and the presence of a housekeeper, household technology and outsourcing dummies (6) ⁵*Significant at the 5% level **Significant at the 1% level.

TABLE 12: MASCULINITY AND FEMININITY ATTITUDES VS. GENDER ROLES ^{1,2,3,4,5}

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Housework						
Wife earns same than husband	-0.082** (0.017)	-0.086** (0.018)	-0.087** (0.018)	-0.083** (0.017)	-0.083** (0.017)	-0.084** (0.017)
Wife earns more than husband	-0.257** (0.048)	-0.262** (0.048)	-0.266** (0.048)	-0.247** (0.047)	-0.247** (0.047)	-0.249** (0.047)
Wife earns more than husband*Trad. Wife	0.145* (0.060)	0.146* (0.059)	0.150* (0.059)	0.140* (0.058)	0.140* (0.058)	0.127* (0.058)
Wife earns more than husband*Trad. Husband	0.226** (0.056)	0.232** (0.056)	0.234** (0.056)	0.218** (0.055)	0.218** (0.055)	0.224** (0.055)
Observations	2008	2008	2008	2008	2008	2008
R-Squared	0.87	1.03	1.06	1.34	1.34	1.46
Panel B: Childcare						
Wife earns same than husband	-0.028 (0.017)	-0.027 (0.017)	-0.028 (0.017)	-0.025 (0.017)	-0.025 (0.017)	-0.026 (0.017)
Wife earns more than husband	-0.162* (0.064)	-0.163* (0.064)	-0.161* (0.064)	-0.171** (0.064)	-0.171** (0.064)	-0.193** (0.065)
Wife earns more than husband* Trad. Wife	0.136* (0.062)	0.144* (0.062)	0.142* (0.062)	0.154* (0.062)	0.154* (0.062)	0.163** (0.062)
Wife earns more than husband*Trad. Husband	0.049 (0.055)	0.045 (0.055)	0.042 (0.055)	0.038 (0.055)	0.038 (0.055)	0.047 (0.055)
Observations	736	736	736	736	736	736
R-Squared	0.77	0.81	0.83	0.99	0.99	1.12

Notes: ¹Robust standard errors in brackets ²Sample consists of individuals between 20 and 65 who are married, where both spouses work full-time, report positive earnings, and report a usual day, (and have at least one child under 10 for childcare) ³We estimate the following equation: $h_{i,k} = w_{i0}\beta_0 + w_{i1}\beta_1 + X_i\gamma$, where the dependent variable is the degree of specialization, measured by the wife's share of time $h_{i,k}$ in any given household i and home labor activity k , and is defined as $h_{i,k} = \frac{H_{i,f}}{H_{i,f} + H_{i,m}}$, for $H_{i,f}$ and $H_{i,m}$ the wife and the husband's time in home labor activity k . We report weighted Tobit estimators ⁴Specifications include relative wage indicators, and sample week and regional dummies (1 to 6), household income (2 to 6), partners' ages (3 to 6), partners' years of schooling (4 to 6), family composition indicators (5 to 6), and the presence of a housekeeper, household technology and outsourcing dummies (6) ⁵*Significant at the 5% level **Significant at the 1% level.

TABLE 13: NATURE OF PAID WORK: WEEKEND-WEEKDAY^{1,2,3,4,5}

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: <i>Housework</i>						
	Weekday					
Wife earns same than husband	-0.045*	-0.047**	-0.047**	-0.041*	-0.042*	-0.040*
	(0.018)	(0.018)	(0.018)	(0.018)	(0.017)	(0.017)
Wife earns more than husband	-0.108**	-0.108**	-0.094**	-0.082**	-0.073**	-0.080**
	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)
Observations	1420	1420	1420	1420	1420	1420
R-Squared	0.04	0.05	0.08	0.10	0.12	0.14
$p > F\beta_0 = \beta_1$	0.02	0.03	0.09	0.14	0.26	0.15
	Weekend					
Wife earns same than husband	-0.079**	-0.076**	-0.070**	-0.067**	-0.059*	-0.061*
	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
Wife earns more than husband	-0.08	-0.05	-0.05	-0.04	-0.02	-0.02
	(0.043)	(0.043)	(0.042)	(0.043)	(0.043)	(0.043)
Observations	588	588	588	588	588	588
R-Squared	0.10	0.14	0.22	0.22	0.24	0.26
$p > F\beta_0 = \beta_1$	0.97	0.59	0.57	0.46	0.40	0.31
Panel B: <i>Childcare</i>						
	Weekday					
Wife earns same than husband	-0.036	-0.025	-0.025	-0.021	-0.020	-0.021
	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)
Wife earns more than husband	-0.034	-0.025	-0.026	-0.021	-0.022	-0.032
	(0.038)	(0.039)	(0.039)	(0.039)	(0.040)	(0.040)
Observations	516	516	516	516	516	516
R-Squared	0.071	0.108	0.113	0.141	0.163	0.193
$p > F\beta_0 = \beta_1$	0.966	0.999	0.972	0.998	0.960	0.782
	Weekend					
Wife earns same than husband	-0.009	-0.027	-0.028	-0.031	-0.019	-0.012
	(0.032)	(0.031)	(0.032)	(0.032)	(0.032)	(0.032)
Wife earns more than husband	-0.045	-0.046	-0.040	-0.047	-0.052	-0.055
	(0.058)	(0.056)	(0.056)	(0.059)	(0.058)	(0.057)
Observations	220	220	220	220	220	220
R-Squared	0.281	0.589	0.615	0.618	0.702	0.906
$p > F\beta_0 = \beta_1$	0.538	0.732	0.836	0.778	0.567	0.451

Notes: ¹Robust standard errors in brackets ²Sample consists of individuals between 20 and 65 who are married, where both spouses work full-time, report positive earnings, and report a usual day, (and have at least one child under 10 for childcare) ³We estimate the following equation: $h_{i,k} = w_{i0}\beta_0 + w_{i1}\beta_1 + X_i\gamma$, where the dependent variable is the degree of specialization, measured by the wife's share of time $h_{i,k}$ in any given household i and home labor activity k , and is defined as $h_{i,k} = \frac{H_{i,f}}{H_{i,f} + H_{i,m}}$, for $H_{i,f}$ and $H_{i,m}$ the wife and the husband's time in home labor activity k . We report weighted Tobit estimators ⁴Specifications include relative wage indicators, and sample week and regional dummies (1 to 6), household income (2 to 6), partners' ages (3 to 6), partners' years of schooling (4 to 6), family composition indicators (5 to 6), and the presence of a housekeeper, household technology and outsourcing dummies (6) ⁵Significant at the 5% level **Significant at the 1% level.

TABLE 14: NATURE OF PAID WORK: JOB TYPE^{1,2,3,4,5}

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Supervisory						
	<i>Housework</i>					
Wife earns same than husband	-0.041** (0.011)	-0.043** (0.011)	-0.042** (0.011)	-0.039** (0.011)	-0.038** (0.011)	-0.038** (0.011)
Wife earns more than husband	-0.045* (0.020)	-0.045* (0.020)	-0.040* (0.020)	-0.034 (0.020)	-0.03 (0.020)	-0.034 (0.020)
Wife earns more than husband*Supervisory	-0.147** (0.038)	-0.138** (0.038)	-0.131** (0.038)	-0.120** (0.038)	-0.119** (0.037)	-0.120** (0.037)
Supervisory	0.113** (0.013)	0.110** (0.013)	0.098** (0.013)	0.093** (0.013)	0.095** (0.013)	0.095** (0.013)
Observations	2008	2008	2008	2008	2008	2008
R-Squared	0.49	0.59	0.69	0.74	0.83	0.88
	<i>Childcare</i>					
Wife earns same than husband	-0.025 (0.017)	-0.024 (0.017)	-0.025 (0.017)	-0.023 (0.017)	-0.021 (0.017)	-0.022 (0.017)
Wife earns more than husband	-0.032 (0.034)	-0.032 (0.034)	-0.031 (0.034)	-0.028 (0.035)	-0.035 (0.035)	-0.045 (0.035)
Wife earns more than husband*Supervisory	-0.036 (0.065)	-0.029 (0.064)	-0.035 (0.064)	-0.031 (0.064)	-0.027 (0.064)	-0.028 (0.065)
Supervisory	0.062** (0.022)	0.065** (0.023)	0.069** (0.023)	0.067** (0.023)	0.067** (0.023)	0.068** (0.023)
Observations	736	736	736	736	736	736
R-Squared	0.80	0.84	0.88	0.92	0.92	0.92
Panel B: Private Sector						
	<i>Housework</i>					
Wife earns same than husband	-0.045** (0.011)	-0.047** (0.011)	-0.046** (0.011)	-0.043** (0.011)	-0.042** (0.011)	-0.042** (0.011)
Wife earns more than husband	-0.066 (0.038)	-0.072 (0.038)	-0.071 (0.037)	-0.065 (0.037)	-0.063 (0.037)	-0.065 (0.037)
Wife earns more than husband*Private Sector	-0.019 (0.042)	-0.01 (0.042)	-0.002 (0.041)	0.001 (0.041)	0.003 (0.041)	0 (0.041)
Private Sector	0.060** (0.014)	0.061** (0.014)	0.060** (0.014)	0.049** (0.014)	0.052** (0.014)	0.052** (0.014)
Observations	-0.014	-0.014	-0.014	-0.014	-0.014	2008
R-Squared	0.34	0.44	0.59	0.63	0.72	0.77
	<i>Childcare</i>					
Wife earns same than husband	-0.026 (0.017)	-0.026 (0.017)	-0.027 (0.017)	-0.025 (0.017)	-0.023 (0.017)	-0.024 (0.017)
Wife earns more than husband	0.008 (0.063)	-0.004 (0.064)	-0.006 (0.064)	-0.004 (0.064)	-0.015 (0.064)	-0.005 (0.064)
Wife earns more than husband*Private Sector	-0.058 (0.070)	-0.045 (0.070)	-0.043 (0.070)	-0.041 (0.071)	-0.034 (0.070)	-0.059 (0.071)
Private Sector	0.044* (0.020)	0.047* (0.020)	0.045* (0.020)	0.039 (0.021)	0.042* (0.021)	0.048* (0.021)
Observations	736	736	736	736	736	736
R-Squared	0.77	0.80	0.83	0.86	0.95	0.96

Notes: ¹Robust standard errors in brackets ²Sample consists of individuals between 20 and 65 who are married, where both spouses work full-time, report positive earnings, and report a usual day, (and have at least one child under 10 for childcare) ³We estimate the following equation: $h_{i,k} = w_{i0}\beta_0 + w_{i1}\beta_1 + X_i\gamma$, where the dependent variable is the degree of specialization, measured by the wife's share of time $h_{i,k}$ in any given household i and home labor activity k , and is defined as $h_{i,k} = \frac{H_{i,f}}{H_{i,f}+H_{i,m}}$, for $H_{i,f}$ and $H_{i,m}$ the wife and the husband's time in home labor activity k . We report weighted bi-tobit estimators ⁴Specifications include relative wage indicators, and sample week and regional dummies (1 to 6), household income (2 to 6), partners' ages (3 to 6), partners' years of schooling (4 to 6), family composition indicators (5 to 6), and the presence of a housekeeper, household technology and outsourcing dummies (6) ⁵Significant at the 5% level **Significant at the 1% level.

TABLE 15: LIMITS TO OUTSOURCING I^{1,2,3,4,5}

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Housework						
Wife earns same than husband	-0.084** (0.018)	-0.087** (0.018)	-0.089** (0.018)	-0.085** (0.018)	-0.085** (0.018)	-0.086** (0.018)
Wife earns more than husband	-0.073 (0.050)	-0.063 (0.050)	-0.062 (0.050)	-0.052 (0.050)	-0.052 (0.050)	-0.055 (0.050)
Wife earns more than husband*Income over the mean	-0.016 (0.059)	-0.038 (0.062)	-0.043 (0.062)	-0.046 (0.061)	-0.046 (0.061)	-0.046 (0.061)
Observations	2008	2008	2008	2008	2008	2008
R-Squared	0.66	0.80	0.82	1.13	1.13	1.25
Panel B: Childcare						
Wife earns same than husband	-0.028 (0.017)	-0.028 (0.017)	-0.029 (0.017)	-0.025 (0.017)	-0.025 (0.017)	-0.026 (0.017)
Wife earns more than husband	-0.004 (0.049)	-0.002 (0.049)	0.002 (0.049)	0.001 (0.049)	0.001 (0.049)	-0.010 (0.050)
Wife earns more than husband*Income over the mean	-0.049 (0.058)	-0.053 (0.060)	-0.060 (0.061)	-0.061 (0.060)	-0.061 (0.060)	-0.060 (0.061)
Observations	736	736	736	736	736	736
R-Squared	0.72	0.75	0.78	0.93	0.93	1.05

Notes: ¹Robust standard errors in brackets ²Sample consists of individuals between 20 and 65 who are married, where both spouses work full-time, report positive earnings, and report a usual day, (and have at least one child under 10 for childcare) ³We estimate the following equation: $h_{i,k} = w_{i0}\beta_0 + w_{i1}\beta_1 + X_i\gamma$, where the dependent variable is the degree of specialization, measured by the wife's share of time $h_{i,k}$ in any given household i and home labor activity k , and is defined as $h_{i,k} = \frac{H_{i,f}}{H_{i,f} + H_{i,m}}$, for $H_{i,f}$ and $H_{i,m}$ the wife and the husband's time in home labor activity k . We report weighted Tobit estimators ⁴Specifications include relative wage indicators, and sample week and regional dummies (1 to 6), household income (2 to 6), partners' ages (3 to 6), partners' years of schooling (4 to 6), family composition indicators (5 to 6), and the presence of a housekeeper, household technology and outsourcing dummies (6) ⁵*Significant at the 5% level **Significant at the 1% level.

TABLE 16: LIMITS TO OUTSOURCING II^{1,2,3,4,5}

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Outside help in activities						
Wife earns same than husband	1.177 (1.228)	1.726 (1.177)	1.598 (1.171)	0.510 (1.159)	0.580 (1.144)	0.935 (1.137)
Wife earns more than husband	6.810** (1.847)	5.151** (1.748)	4.386* (1.741)	1.845 (1.742)	2.161 (1.728)	2.931 (1.710)
Observations	2008	2008	2008	2008	2008	2008
R-Squared	0.02	0.06	0.07	0.08	0.09	0.10
$p > F\beta_0 = \beta_1$	0.01	0.06	0.12	0.44	0.36	0.24
Panel B: Paid Housekeeper						
Wife earns same than husband	-0.534 (1.528)	0.035 (1.447)	-0.178 (1.427)	-1.634 (1.393)	-1.153 (1.317)	-0.872 (1.293)
Wife earns more than husband	7.074** (2.302)	4.632* (2.132)	3.804 (2.100)	0.608 (2.049)	1.580 (1.961)	2.679 (1.916)
Observations	2008	2008	2008	2008	2008	2008
R-Squared	0.02	0.07	0.08	0.12	0.14	0.15
$p > F\beta_0 = \beta_1$	0.01	0.04	0.07	0.28	0.17	0.07
Panel C: Outside help in Childcare						
Wife earns same than husband	0.575 (2.047)	1.216 (2.007)	0.723 (1.975)	0.254 (1.987)	0.554 (1.895)	0.555 (1.891)
Wife earns more than husband	4.492 (3.482)	3.961 (3.434)	3.839 (3.365)	2.834 (3.419)	1.605 (3.267)	1.959 (3.280)
Observations	736	736	736	736	736	736
R-Squared	0.01	0.01	0.02	0.02	0.04	0.04
$p > F\beta_0 = \beta_1$	0.27	0.43	0.37	0.46	0.75	0.67

Notes: ¹Robust standard errors in brackets ²Sample consists of individuals between 20 and 65 who are married, where both spouses work full-time, report positive earnings, and report a usual day, (and have at least one child under 10 for childcare) ³We estimate the following equation: $y_{i,k} = w_{i0}\beta_0 + w_{i1}\beta_1 + X_i\gamma$, where the dependent variable is the level of outsourcing, measured as the hours that the family receives as outside help in housework activities (Panel 1), by a paid housekeeping (Panel 2), and in childcare (Panel 3). We report weighted Tobit estimators ⁴Specifications include relative wage indicators, and sample week and regional dummies (1 to 6), household income (2 to 6), partners' ages (3 to 6), partners' years of schooling (4 to 6), family composition indicators (5 to 6), and household technology (6) ⁵Significant at the 5% level **Significant at the 1% level.