inist Economics 16(4), October 2010, 137–184

GENDER ROLES AND THE DIVISION OF UNPAID WORK IN SPANISH HOUSEHOLDS

Almudena Sevilla-Sanz, Jose Ignacio Gimenez-Nadal, and Cristina Fernández

ABSTRACT

This paper examines the role of the doing-gender hypothesis versus traditional models of the household in explaining how the woman's share of home labor varies with relative earnings. The findings, using the 2002–3 Spanish Time Use Survey (STUS; Spanish Statistical Office 2003), 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's. In contrast, a woman's share of childcare time displays a flat pattern over the distribution of her spouse's 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.

KEYWORDS

Household production, childcare, doing-gender hypothesis, social norms, household specialization, household bargaining

JEL Codes: D13, J0, Z13

INTRODUCTION

In late twentieth-century industrial societies, a woman working full time in paid employment spent between twenty and thirty hours per week in unpaid housework (see, for example, F. Thomas Juster and Frank P. Stafford [1991] and Anne H. Gauthier, Timothy M. Smeeding, and Frank F. Furstenberg Jr. [2004]), and between six and twelve hours in unpaid childcare (Mark Aguiar and Erik Hurst 2007). Of particular concern is the fact that, despite the increases in women's relative earnings, women continue to do most home labor in heterosexual married-couple households.[1] Ample evidence from time-use surveys shows that across developed countries, the increase in women's labor force participation in recent decades has not been fully compensated by a similar decrease in

Feminist Economics ISSN 1354-5701 print/ISSN 1466-4372 online © 2010 IAFFE
http://www.tandf.co.uk/journals
DOI: 10.1080/13545701.2010.531197

their home labor time. Furthermore, men's contribution to home labor has only been modest, so that specialization within the household has remained relatively unchanged (see, for example, Jonathan Gershuny 2000 and Suzanne M. Bianchi, John P. Robinson, and Melissa A. Milkie 2006).

The negative socioeconomic consequences of this pattern of specialization, in which women bear most of the burden of unpaid labor, have important policy implications. Beyond such specializations well-known negative effect on women's career prospects, due to its indirect effect on human capital accumulation (see, for example, Gary S. Becker 1985 and Jacob 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, carry a penalty on women's wages (for a review of the literature, see Wendy Sigle-Rushton and Jane Waldfogel 2007 and Joni Hersch and Leslie S. Stratton 2000). 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 participation of women in the labor force (James Feyrer, Bruce Sacerdote, and Ariel D. Stern 2008; Joost de Laat and Almudena Sevilla-Sanz forthcoming), as well as the low rates of household formation observed in some southern European countries, including Spain (Almudena Sevilla-Sanz 2010).

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 women's 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 (see Scott Coltrane 1989, 2000 for an overview). Thus, 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.

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 2002–3 Spanish Time Use Survey (STUS; Spanish Statistical Office 2003). Most previous studies on this issue use stylized questions such as "How much time did you spend doing activity X?" (see, for example, Julie Brines [1994] and Theodore N. 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 (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 (ATUS), because it contains diary information not only 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 (Michael Bittman, Paula England, Nancy Folbre, Liana Sayer, and George Matheson 2003) by looking not only at how husbands and wives allocate their time to household chores (or housework), but also at how they allocate their time to childcare. Distinguishing between childcare that is thought of as leisure versus domestic labor is a difficult task. In this paper, we take the conceptualization of childcare a step further and construct alternative definitions of childcare using extra information in the diary that details with whom the activity took place and the other activities that were being done simultaneously. These definitions of childcare range from the most simplistic one often used in the literature – that is, childcare reported as the main activity – to a more general definition of childcare, capturing routine activities done in the presence of a child.

A final contribution to the literature is the study of Spain, a country whose household dynamics are less well known than other countries (in particular the Anglo-Saxon countries, where most research has focused). Spanish women have one of the lowest rates of participation in the labor force across the Organisation for Economic Co-operation and Development (OECD) countries, and Spain has deeply entrenched gender roles. There is some evidence that gender roles play an important part in the division of home labor in Spain. Begoña Álvarez and Daniel Miles (2003) compare two-earner, married couples in Spain 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 Álvarez and Miles, we not only look at the specialization of housework of Spanish couples in more detail, but also the specialization of childcare. The latter is particularly relevant to the Spanish case, given that childcare services in Spain are typically inadequate and characterized by extreme rigidity in the number of weekly hours available (for example, Cristina Carrasco and Arantxa Rodríguez [2000]).

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 unpaid housework in most industrialized countries (see, for example, Michael Bittman and Judy Wajcman [2000]), and between two and four times more unpaid childcare than men (Aguiar and Hurst 2007). Arlie Russell Hochschild and Anne 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 (MTUS Version W552; 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 to 44 percent of total paid work. However, the share of women's time in unpaid labor (both housework and childcare) hardly changed during the 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 (that is, the lowest human capital or the highest home productivity) contributes the most to household production and the least to paid work (Gary S. Becker, Kevin M. Murphy, and Robert Tamura 1990). In contrast to the single utility Beckerian framework, intrahousehold 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 they pay special attention to the interaction between heterogeneous preferences of household members and power distribution between them. 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 (see, for example, Marjorie B. McElroy and Mary Jean Horney [1981] and Marilyn Manser and Murray Brown [1980]). Similarly, sociological

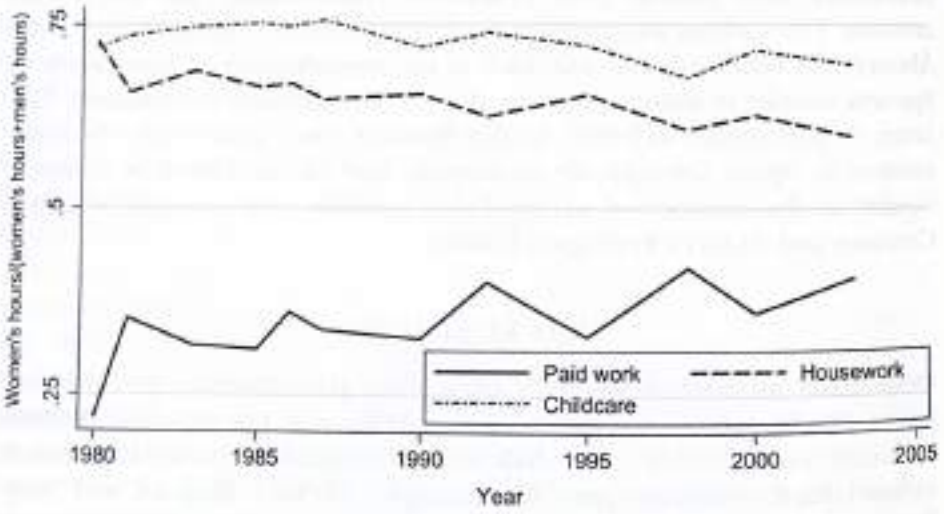

Figure 1 Evolution of women's share of market work, housework, and childcare.
Source Constructed by the authors using time-use diaries for Canada, Norway, the Netherlands, US, and the UK from the MTUS, Center for Time Use Research (2006).

exchange models state that the partner with the highest earnings will trade off labor market earnings for time spent doing unpaid housework.[2] Thus, both unitary- and traditional-exchange bargaining theories yield the same conclusion regarding how the household distribution of unpaid work varies with relative earnings.

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 regularities. In particular, the common assumption of a gender-neutral process governing household decisions has come under scrutiny. One approach has been to extend bargaining models of the household to explicitly recognize the importance of gender roles. For example, unlike previous cooperative Nash bargaining household models, noncooperative bargaining models assume that the threat point is not divorce but a point internal to the marriage. This internal threat point is precisely determined by a noncooperative equilibrium defined in terms of socially recognized and sanctioned gender roles (Shelly Lundberg and Robert A. Pollak 1996). Other theories argue that widely accepted gender roles, such as the idea that housework and childcare are usually seen as women's responsibilities, may not only affect the bargaining power as the *separate-spheres model* of Lundberg and Pollak (1996), but may also limit what is bargained over (see, for example, Bina Agarwal [1997]). For example, the fact that it may not be socially legitimate to bargain over the division of home labor can thus explain that women's relative share of housework fails to decrease despite their improved economic position within the household.

Another approach has been taken by the sociological literature in favor of the notion of doing gender (Coltrane 2000). 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 George A. Akerlof and Rachel E. 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 that a husband loses identity when his wife earns more than he does because of the prescription held by most men that men should earn more than their wives. Equality in utility is restored when a wife undertakes more housework than her husband, given the prescription that men should not do women's work at home.[3] Unlike in limit or bargaining

theories, doing-gender or economic models of identity not only predict that the women's relative share of housework fails to decrease when their economic position within the household improves, but also that their relative share of housework may actually increase.

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 the relative housework contribution of a woman decreases up to the point where her earnings are the same as her husband's, and increases afterward. Similarly, Greenstein (2000) uses the National Survey of Families and Households (NSFH) to show that both economically dependent men and breadwinner women 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 Sanjiv Gupta (1999), who replicates Brines' work and finds an inverse linear relationship in which women's housework decreases as their earnings increase once the 3 percent of couples in which husbands are at the top of the relative earnings distribution are dropped from the analysis. In a review of the quantitative and qualitative literature, Oriel Sullivan (forthcoming a, b) has also raised concerns about the robustness of previous results supporting the doing-gender hypothesis.

Unlike in the US studies, Bittman et al. (2003) use a sample of Australian couples and find that it is the woman's housework (not the man's) that increases when she contributes more than 50 percent to household income. Their results are robust to different sample considerations. In comparing their results with those of the US studies, these authors conclude that men's decrease in housework when women's relative earnings are higher than 50 percent is small in both countries, and comes from the extreme tail of the men's earnings distribution. However, Bittman et al. (2003) argue that the amount of housework done by a married woman increases in Australia and not in the US when she earns more than her husband, because institutional and cultural differences make women's primary breadwinning more deviant in Australia than in the US. In this vein, Marie Evertsson and Magnus Nermo (2004) compare Swedish and US couples in heterosexual marriages for the period 1970–2000, and find persistent evidence of doing gender only in the case of US 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 their breadwinner role is also greater in the US. Consequently, breadwinner wives in the US tend to do gender but Swedish breadwinner wives do not.

This paper examines the role of the doing-gender hypothesis versus traditional models of the household for the case of Spain. For the purpose of the empirical analysis, we follow the existing literature and study the impact of women's relative earnings on women's share of home labor in

order to identify whether these households are doing gender. As in previous studies, we also control for an array of household and individual observed heterogeneity in an effort 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 also explore the presence of limits to the levels of outsourcing for higher-income households – that is, limits on the ability to purchase home services in the market (such as cleaning or cooking services) – and we 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.

We pay particular attention to whether doing gender is in any way mediated by the nature of social norms – that is, masculinity norms or femininity norms. Norms can be conceived in this context as behavioral prescriptions for one's gender, either as a "man" or as a "woman." Psychological evidence shows that following the norms for one's gender affirms the individual's self-image, or identity. In contrast, violating the prescriptions evokes anxiety and discomfort in oneself (for a review see Akerlof and Kranton [2000]). Interviews in Hochschild and Machung (1989) suggest that many men, and some women, hold the prescriptions that "men" should not do "women's work" in the home (such as housework and childcare) and "men" should earn more than their wives in the US. Evidence from the International Social Survey Program, which collects information on attitudes toward men's and women's roles in society, reveals that in Spain masculinity and femininity norms are much more entrenched than in the US (for example, see Sevilla-Sanz 2010). We thus look at whether it is precisely traditional husbands and wives, who hold traditional prescriptions about the gender division of labor, and who occupy nontraditional provider roles (that is, either breadwinner wives or dependent husbands), who in particular may feel compelled to resort to a more traditional division of housework and childcare.

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 a 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:

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

In our analysis, 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.[4]

The degree of specialization, h_{ik}, is defined as $h_{ik} = \frac{H_{i,f}}{H_{i,f}+H_{i,m}}$, where $H_{i,f}$ and $H_{i,m}$ are respectively the wife's 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 $w_{i,0}$ and women who earn more than their husbands $w_{i,1}$, 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 traditional bargaining explanations, the main channels through which relative earnings may affect spouses' specialization are either efficiency or 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.[5] 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 she reaches a certain level of relative earnings, so that $|\beta_0| \geq |\beta_1|$. Thus, whereas traditional theories of the household predict that a woman's relative share of housework decreases with her relative earnings, so that $|\beta_0| \leq |\beta_1|$, doing gender or economic models of identity predict that higher relative earning women perform an equal or higher share of household chores than lower relative earning women.

It is worth pointing out that the specification in Equation 1 interprets bargaining models strictly and doing gender liberally. Particularly, it assumes that women can always bargain to reduce their relative share of housework, which means that there are no limits to bargaining. However, as Agarwal (1997) points out, norms can have an impact on the bargaining process by limiting what can be bargained. In such cases β_0 would be equal to (but not lower than) β_1, and thus the predictions of either limits to bargaining or doing-gender theories would not be readily different from each other.

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 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 identify women who earn the same as their husbands w_{it0} and women who earn more than their husbands w_{it+}. This specification shows the gross impact of women's relative earnings on their share of home time, in a purely descriptive sense.

Our second, third, and fourth specifications control for total household (labor and nonlabor) income, the spouses' ages, and the spouses' education level, respectively. These variables aim to account for households' 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 (Jonathan Guryan, Erik Hurst, and Melissa 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 (Robert Haveman and Barbara 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 (see Rachel Connelly and Jean Kimmel [2009], who show a positive correlation between household production and childcare activities for mothers during weekdays). 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 than others in the sample to live in richer households and to 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. For example, David Lam (1988) argues that similar preferences regarding home-produced goods can explain the positive assortative mating on education found in the data, which seems a priori contrary to specialization theories. 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 show no statistically significant differences at the 95 percent level 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, 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.

The fact that the time-diary data are recorded daily allows us to control for the time of the week, and hence in all specifications we include a dummy variable that takes value 1 if the respondent was interviewed during a weekday. 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 include as much observed heterogeneity as possible to be able to account for the confounding effects described above.[6]

THE 2002–3 STUS

The data used for the empirical analysis is drawn from the 2002–3 STUS, part of the Harmonized European Time Use Surveys (HETUS) launched by Eurostat, the statistical office of the European Union. 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 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 aged 10 years 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 their superiority over other time-use

surveys based on stylized questions, asking respondents to estimate time in activities on a "typical day" (for example, see John P. Robinson and Geoffrey Godbey 1985 and Juster and Stafford 1991). The diaries' time frame is twenty-four consecutive hours (from 6:00 a.m. until 6:00 a.m. the following day) and is divided into ten-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 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 a.m., how long the activity lasted, who was there, and where the activity took place, continuing through the day for twenty-four hours), HETUS surveys are leave-behind written diaries, which may be of higher quality but are more costly to collect (F. Thomas Juster 1985).

Activities are coded according to a harmonized list established by Eurostat and are grouped into ten major categories: personal care, paid 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 nonspecified travel and use of time.[7] The STUS proves particularly useful for our study since, unlike other recent diary-based, time-use surveys (like the 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 these households. 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. A comparison between the STUS and the Spanish Labor Force Survey (EPA), a well-known representative panel data set of the Spanish labor market, shows that main demographic and economic variables in both data sets resemble each other (results are available upon request).

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, we restrict the sample to those individuals aged 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 EPA.

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 with both spouses working in the market. 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 a husband does paid work, we are excluding those women who are likely to earn less than their husbands (in the event that they were doing paid work) and also more likely to have a higher preference for housework and childcare. If this is the case, we should expect our estimate of β_1 to be upwardly biased, which would imply that the doing-gender effect is smaller 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 in the market full-time (3,314 households). This cut in the sample is not statistically significant, given the relatively small proportion of individuals working in the market part-time in Spain, and the results would be the same when all two-earner couples (working full 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* as in Jens Bonke, Nabanita Datta Gupta, and Nina Smith (2005). Individuals report the day as being not usual if they are either on holiday, on sick leave, or not at their place of paid employment 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 in which a form of childcare is the dependent variable, we further restrict the sample to those households with a child under the age of 10, 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 10 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 the broader sample, and 736 households for the sample of parents. 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 are available upon request.

Descriptive statistics: Housework

Table 1 shows the time devoted to unpaid 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 1 is a clear pattern of specialization within the household. The majority of women (99.15 percent) in our sample undertake some housework activity, versus only 77.63 percent of the men. These women spend almost three times more time in household chores than the men, spending 214.95 minutes per day versus only 111.72 minutes per day for men. Specialization within these households 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 (for example, see Hersch and Stratton 2000).

Table 1 Daily minutes devoted to housework (all samples)

	Husbands			*Wives*		
Housework time (minutes per day)	*%*	*Mean (fraction who report time > 0)*	*Mean (whole sample)*	*%*	*Mean (fraction who report time > 0)*	*Mean (whole sample)*
Total housework	77.63	111.72	86.72	99.15	214.95	214.93
Cooking	61.57	46.50	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	3.80
Maintenance and repairs	7.29	67.23	4.90	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	

Note The sample consists of individuals between 20 and 65 years of age who are married, where both spouses work in the market full time, report positive earnings, and report a usual day.

Source STUS 2002–3 (Spanish Statistical Office 2003).

Table 2 shows how the time both spouses devote to unpaid housework and paid work changes with respect to spouses' relative earnings – that is, when a wife's relative earnings are higher, equal to, or lower than her husband's. It also shows the variation in household specialization, defined as the time a 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 percent of the household income engage in more than 50 percent of household production. On average, the share of total housework time for a woman is 76 percent when she earns less than her husband, 71 percent when she earns the same, and 68 percent when she earns more. This is very similar to Akerlof and Kranton's (2000) figure from the PSID, where wives earning the same as their husbands still perform about 70 percent of the housework. Second, the sampled 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, the sampled men's housework time increases from eighty-two to ninety-two minutes as women's earnings increase, but decreases again to eighty-seven 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.

Conceptualizing childcare

Many of the tasks constituting childcare can be purchased in the market, and so economists often include childcare as another form of housework (for example, see Michael Burda, Daniel Hamermesh, and Philippe Weil [2008]). The conceptualization of childcare is, however, far from

Table 2 Housework and paid work by relative earnings

	Husband	*Wife*	*Ratio*	*Obs.*
Net monthly earnings		*Daily minutes of Housework*		
Wife earns less than husband	82.36 (98.96)	228.53 (126.39)	0.76 (0.22)	1017
Wife earns 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 Paid Work		
Wife earns less than husband	406.97 (245.90)	310.42 (208.95)	0.84 (2.04)	1017
Wife earns 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: Standard deviations in brackets. Ratios are defined as the amount of time devoted by a wife to housework/paid work, divided by the sum of the time devoted to housework/paid work by both spouses. The sample consists of individuals between 20 and 65 years of age who are married, where both spouses work in the market full time, report positive earnings, and report a usual day.
Source: STUS 2002–3 (Spanish Statistical Office 2003).

straightforward. Parents report that spending time with their children is among their more enjoyable activities, especially when compared with other standard home-production activities (Juster 1985; Robinson and Godbey 1985; Guryan, Hurst, and Kearney 2008; and Alan B. Krueger, Daniel Kahneman, David Schkade, Norbert Schwarz, and Arthur A. Stone 2009). In sharp contrast to the negative education and income gradient researchers have observed for the amount of time allocated to home production (Robinson and Godbey 1985 and Aguiar and Hurst 2007), childcare rises as education and income rise (C. Russell Hill and Frank P. Stafford 1974; Liana C. Sayer, Anne H. Gauthier, and Frank F. Furstenberg 2004; Jean Kimmel and Rachel Connelly 2007; and Guryan, Hurst, and Kearney 2008).

In order to construct a measure of childcare that is more closely related to home labor rather than to 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 ten-minute slot, including trips and travel. The respondent is free to answer in his or her own words, and then the survey staff codifies the answer into the different categories.

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 them, or helping them 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 Nancy Folbre, Jayoung

Yoon, Kade Finnof, and Allison Sidle Fuligni (2005) and Nancy Folbre and Jayoung Yoon (2007), human beings 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 substantially underreports total childcare time (see, for example, Michael J. Budig and Nancy Folbre [2004]; Nancy Folbre and Michael Bittman [2004]; and Suzanne Bianchi, Vanessa Wight, and Sara Raley [2006]). Although primary childcare time is the measure that is most consistently available, both across time in the US and in time-diary studies from other countries, 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 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 Paavo 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 for secondary activities is eighty-two minutes, the lowest among the UK, Finland, France, Germany, Italy, Norway, and Sweden, with a mean value of 193 minutes reported for secondary activities. More importantly, measures of childcare as a secondary activity 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 (Budig and Folbre 2004 and Nancy Folbre, Jayoung Yoon, Kade Finnof, and Allison Sidle Fuligni 2005).

Following Suzanne M. Bianchi (2000), we thus construct a third definition of childcare that uses information on whether a child of 10 years of age or younger was present while the parent was 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 (Michael Horrigan and Diane 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 (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 (Marybeth J. Mattingly and Suzanne M. Bianchi 2003 and Bittman and Wajcman 2000). For example, Appendix Table 1 shows which primary activities are undertaken when a child under 10 years of age 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 10, such as watching television, playing sports while children are present, and 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 *chidlcare3* 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 nonleisure 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.[8]

Descriptive statistics: Childcare

Table 3 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 128 minutes and 143 minutes on *childcare1* and *childcare2* respectively, whereas men devote seventy-two and eighty-two 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

Table 3 Daily minutes devoted to childcare (sample of parents)

	Husbands			*Wives*		
Childcare time (minutes per day)	%	*Mean (fraction who report time > 0)*	*Mean (whole sample)*	%	*Mean (fraction who report time > 0)*	*Mean (whole sample)*
Childcare1	71.70	100.71	72.21	90.00	142.29	128.11
Childcare2	73.10	112.05	81.96	91.10	156.76	142.82
Childcare3	92.00	274.00	251.99	97.40	374.27	364.54
Routine childcare	90.80	175.65	159.53	97.30	293.08	285.10
Leisure childcare	69.60	132.16	92.04	70.10	111.11	77.91
Observations		736			736	

Notes: The sample consists of individuals between 20 and 65 years of age who are married and where both work in the market full time, report positive earnings, report a usual day, and have children under 10 in the household. *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 aged 10 years 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 nonleisure 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.

Source: STUS 2002–3 (Spanish Statistical Office 2003).

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 4 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 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.

Table 4 Childcare by relative earnings

	Husband	*Wife*	*Ratio*	*Obs.*
Daily minutes of *childcare1*				
Wife earns less than husband	66.65 (77.51)	124.80 (100.77)	0.68 (0.28)	356
Wife earns 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
Daily minutes of *childcare2*				
Wife earns less than husband	75.10 (88.07)	138.62 (109.83)	0.68 (0.28)	356
Wife earns 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
Daily minutes of *childcare3*				
Wife earns less than husband	254.52 (219.18)	370.34 (224.97)	0.62 (0.20)	356
Wife earns 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
Daily minutes of *routine childcare*				
Wife earns less than husband	156.55 (139.27)	292.75 (185.35)	0.67 (0.20)	356
Wife earns 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
Daily minutes of *leisure childcare*				
Wife earns less than husband	97.45 (115.23)	75.86 (93.86)	0.44 (0.31)	356
Wife earns 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: Standard deviations are in brackets. Ratios are defined as the amount of time devoted by a wife to childcare divided by the sum of the time devoted to childcare by both spouses. The sample consists of individuals between 20 and 65 years of age who are married, where both spouses work in the market full time, report positive earnings, report a usual day, and have children under 10 in the household. See Table 3 notes for definitions of different types of childcare.

Source: STUS 2002–3 (Spanish Statistical Office 2003).

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.

EMPIRICAL RESULTS

The specialization ratios presented in Tables 2 and 4 refer to unconditional variations of housework and childcare as women's relative earnings increase. However, as pointed out in the empirical specifications, there could be other explanations apart from social norms to account for the fact that home labor specialization does not change with a 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. We address this issue by estimating the six specifications of Equation 1. We do this separately for housework and childcare.

The household division of housework

Table 5 shows the results from estimating Equation 1 when the dependent variable is housework specialization. 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 5–6 percentage points. Although a few percentage points in the specialization ratio might be seen as a small variation, Table 1 shows that it represents an important portion of a

Table 5 The division of *housework*

Ratio of *housework*	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Wife earns same as husband[a]	-0.056***	-0.058***	-0.056***	-0.050***	-0.050***	-0.050***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Wife earns more than husband[a]	-0.106***	-0.099***	-0.088***	-0.075***	-0.070***	-0.075***
	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)
Household income €500–1000[a]	–	-0.084	-0.015	-0.038	-0.059	-0.051
		(0.098)	(0.097)	(0.097)	(0.097)	(0.097)
Household income €1000–1500[a]	–	-0.226***	-0.149	-0.162	-0.185**	-0.172**
		(0.086)	(0.085)	(0.085)	(0.085)	(0.085)
Household income €1500–2000[a]	–	-0.231***	-0.165	-0.168**	-0.194**	-0.177**
		(0.086)	(0.084)	(0.085)	(0.085)	(0.085)
Household income €2000–2500[a]	–	-0.262***	-0.204**	-0.189**	-0.216**	-0.202**
		(0.086)	(0.084)	(0.085)	(0.085)	(0.085)
Household income €2500–3000[a]	–	-0.272***	-0.231***	-0.206**	-0.235***	-0.216**
		(0.087)	(0.085)	(0.086)	(0.086)	(0.087)
Household income €3000–3500[a]	–	-0.215**	-0.188**	-0.145	-0.181**	-0.164
		(0.086)	(0.084)	(0.085)	(0.085)	(0.086)
Household income ≥€3500[a]	–	-0.234**	-0.223**	-0.164	-0.203**	-0.187**
		(0.093)	(0.091)	(0.092)	(0.092)	(0.093)
Wife's age	–	–	0.004	0.004	0.003	0.003
			(0.002)	(0.002)	(0.002)	(0.002)
Husband's age	–	–	0.003	0.002	0.001	0.001
			(0.002)	(0.002)	(0.002)	(0.002)
Wife's years of education	–	–	–	-0.005**	-0.004	-0.004
				(0.002)	(0.002)	(0.002)
Husband's years of education	–	–	–	-0.006***	-0.006***	-0.006**
				(0.002)	(0.002)	(0.002)
Number of children ages 0–2	–	–	–	–	-0.016	-0.011
					(0.021)	(0.021)

(continued)

Table 5 (continued)

Ratio of *housework*	(1)	(2)	(3)	(4)	(5)	(6)
Number of children ages 3–5	–	–	–	–	-0.018	-0.016
					(0.020)	(0.020)
Number of children ages 6–12	–	–	–	–	0.004	0.006
					(0.013)	(0.013)
Number of children ages 13–17	–	–	–	–	-0.003	-0.002
					(0.016)	(0.016)
Log number of family members	–	–	–	–	0.132***	0.138***
					(0.037)	(0.037)
Paid housekeeper[d]	–	–	–	–	–	-0.043
						(0.028)
Outsourcing of food preparation[d]	–	–	–	–	–	-0.022
						(0.027)
Outsourcing of household maintenance[d]	–	–	–	–	–	0.087***
						(0.028)
Week day observation[d]	0.101***	0.098***	0.103***	0.106***	0.110***	0.110***
	(0.015)	(0.015)	(0.014)	(0.014)	(0.014)	(0.014)
Region[d]	yes	yes	yes	yes	yes	yes
Constant	0.771***	1.007***	0.655***	0.823***	0.743***	0.749***
	(0.023)	(0.089)	(0.096)	(0.102)	(0.104)	(0.106)
Observations	2008	2008	2008	2008	2008	2008
R-Squared	0.06	0.07	0.11	0.12	0.14	0.15
$p > Fb_0 = b_1$	0.00	0.08	0.17	0.28	0.40	0.28

Notes: Robust standard errors in brackets. The sample consists of individuals between 20 and 65 years of age who are married, where both spouses work in the market full time, report positive earnings, and report a usual day. We report weighted tobit. Estimates for home appliances are not shown; available upon request. [d]indicates a dummy variable that takes value 1 if the statement is satisfied and 0 otherwise. ** indicates significance at the 5 percent level; *** indicates significance at the 1 percent level.

Source: STUS 2002–3 (Spanish Statistical Office 2003).

woman's time (up to three 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 5 shows that a Wald test for the null hypothesis that $\beta_0 = \beta_1$ cannot be rejected at the 95 percent level. Thus, the housework specialization ratio fails to decrease further when a 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 statistically significant at the 95 percent level, reflecting the fact that higher-income households might be able to outsource more, and thus reduce a 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 statistically significant at the 95 percent level, turn out to be quite small. Age for both spouses seems to be unimportant for the proportion of housework carried out by a wife. Specification five introduces the number of members of the household and the number and ages of children. In our sample, the greater the number of members of the household, the greater a 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, having only a dishwasher is statistically significant at the 95 percent level, and it decreases the share of housework done by a wife. In contrast, the outsourcing of household maintenance services has a positive and statistically significant coefficient, increasing a 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 a wife is able to outsource this type of service are also those households where housework burdens are the greatest, and thus where a wife is more likely to have a higher share of home labor.

The household division of childcare

Tables 6 and 7 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 different from zero at a statistically significant level of 95 percent when childcare is the dependent variable. This finding suggests that we cannot

Table 6 The division of *childcare2*

Ratio of *childcare2*	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Wife earns same as husband[a]	-0.053	-0.036	-0.037	-0.039	-0.037	-0.037
	(0.034)	(0.034)	(0.034)	(0.035)	(0.035)	(0.034)
Wife earns more than husband[a]	-0.002	0.006	0.005	-0.001	-0.006	-0.028
	(0.058)	(0.060)	(0.060)	(0.060)	(0.060)	(0.060)
Household income €500–1000[d]	–	0.533**	0.524**	0.524**	0.484	0.557**
		(0.259)	(0.261)	(0.264)	(0.264)	(0.264)
Household income €1000–1500[d]	–	0.437	0.432	0.433	0.400	0.484**
		(0.243)	(0.243)	(0.246)	(0.246)	(0.246)
Household income €1500–2000[d]	–	0.523**	0.517**	0.518**	0.491**	0.581**
		(0.242)	(0.243)	(0.245)	(0.245)	(0.246)
Household income €2000–2500[d]	–	0.454	0.449	0.448	0.424	0.516**
		(0.242)	(0.243)	(0.244)	(0.243)	(0.245)
Household income €2500–3000[d]	–	0.450	0.446	0.446	0.427	0.542**
		(0.244)	(0.245)	(0.245)	(0.245)	(0.247)
Household income €3000–3500[d]	–	0.504**	0.501**	0.502**	0.461	0.565**
		(0.243)	(0.243)	(0.243)	(0.243)	(0.245)
Household income ≥€3500[d]	–	0.364	0.362	0.362	0.311	0.419
		(0.260)	(0.260)	(0.260)	(0.260)	(0.262)
Wife's age	–	–	-0.001	-0.001	-0.002	-0.002
			(0.006)	(0.006)	(0.006)	(0.006)
Husband's age	–	–	0.000	0.000	-0.001	0.000
			(0.005)	(0.005)	(0.005)	(0.005)
Wife's years of education	–	–	–	0.003	0.003	0.003
				(0.006)	(0.006)	(0.006)
Husband's years of education	–	–	–	-0.003	-0.002	0.000
				(0.006)	(0.006)	(0.006)
Number of children ages 0–2	–	–	–	–	0.078	0.098
					(0.060)	(0.060)

(continued)

Table 6 (continued)

Ratio of *childcare2*	(1)	(2)	(3)	(4)	(5)	(6)
Number of children ages 3–5	–	–	–	–	0.031	0.051
					(0.057)	(0.058)
Number of children ages 6–12	–	–	–	–	0.055	0.072
					(0.052)	(0.053)
Number of children ages 13–17	–	–	–	–	0.035	0.046
					(0.061)	(0.061)
Log number of family members	–	–	–	–	0.057	0.011
					(0.179)	(0.182)
Paid housekeeper[d]	–	–	–	–	–	-0.057
						(0.053)
Outsourcing of food preparation[d]	–	–	–	–	–	0.043
						(0.057)
Outsourcing of household maintenance[d]	–	–	–	–	–	0.035
						(0.053)
Week day observation[d]	0.185***	0.184***	0.183***	0.183***	0.191***	0.190***
	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)	(0.035)
Region[d]	yes	yes	yes	yes	yes	yes
Constant	0.588***	0.105	0.141	0.140	0.031	0.001
	(0.053)	(0.249)	(0.285)	(0.302)	(0.335)	(0.345)
Observations	736	736	736	736	736	736
R-Squared	0.04	0.05	0.05	0.05	0.06	0.07
$p > Fb_0 = b_1$	0.39	0.48	0.48	0.52	0.60	0.88

Notes: Robust standard errors in brackets. The sample consists of individuals between 20 and 65 years of age who are married where both spouses work in the market full time, report positive earnings, report a usual day, and have children under 10 in the household. We report weighted tobit estimators. *Childcare2* measures the time devoted to any childcare activity either as primary or secondary activity. Estimates for home appliances are not shown, available upon request. [d] indicates a dummy variable that takes value 1 if the statement is satisfied and 0 otherwise. ** indicates significance at the 5 percent level; *** indicates significance at the 1 percent level.

Source: STUS 2002–3 (Spanish Statistical Office 2003).

Table 7 The division of *routine childcare*

Ratio of *routine childcare*	(1)	(2)	(3)	(4)	(5)	(6)
Wife earns same as husband[d]	-0.029	-0.028	-0.029	-0.026	-0.024	-0.024
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Wife earns more than husband[d]	-0.038	-0.036	-0.037	-0.033	-0.036	-0.047
	(0.032)	(0.033)	(0.033)	(0.033)	(0.033)	(0.033)
Household income €500–1000[d]	–	0.170	0.161	0.103	0.084	0.130
		(0.146)	(0.147)	(0.149)	(0.148)	(0.149)
Household income €1000–1500[d]	–	0.147	0.141	0.091	0.076	0.130
		(0.138)	(0.138)	(0.139)	(0.139)	(0.139)
Household income €1500–2000[d]	–	0.142	0.135	0.090	0.081	0.140
		(0.137)	(0.138)	(0.138)	(0.138)	(0.139)
Household income €2000–2500[d]	–	0.136	0.130	0.101	0.092	0.155
		(0.137)	(0.138)	(0.138)	(0.137)	(0.138)
Household income €2500–3000[d]	–	0.128	0.123	0.105	0.101	0.174
		(0.139)	(0.139)	(0.139)	(0.138)	(0.140)
Household income €3000–3500[d]	–	0.156	0.155	0.146	0.131	0.202
		(0.138)	(0.138)	(0.138)	(0.138)	(0.139)
Household income ≥€3500[d]	–	0.105	0.104	0.101	0.081	0.158
		(0.147)	(0.147)	(0.146)	(0.147)	(0.148)
Wife's age	–	–	0.000	0.000	-0.001	-0.001
			(0.003)	(0.003)	(0.003)	(0.003)
Husband's age	–	–	-0.002	-0.002	-0.002	-0.002
			(0.003)	(0.003)	(0.003)	(0.003)
Wife's years of education	–	–	–	-0.005	-0.005	-0.005
				(0.003)	(0.003)	(0.003)
Husband's years of education	–	–	–	-0.002	-0.002	-0.001
				(0.003)	(0.003)	(0.003)
Number of children ages 0–2	–	–	–	–	0.066**	0.077**
					(0.033)	(0.033)

(continued)

Table 7 (continued)

Ratio of *routine childcare*	(1)	(2)	(3)	(4)	(5)	(6)
Number of children ages 3–5	–	–	–	–	0.044	0.056
					(0.031)	(0.032)
Number of children ages 6–12	–	–	–	–	0.056**	0.067**
					(0.028)	(0.029)
Number of children ages 13–17	–	–	–	–	0.056	0.062
					(0.033)	(0.033)
Log number of family members	–	–	–	–	-0.084	-0.114
					(0.098)	(0.099)
Paid housekeeper[d]	–	–	–	–	–	-0.024
						(0.029)
Outsourcing of food preparation[d]	–	–	–	–	–	0.017
						(0.031)
Household outsourcing maintenance[d]	–	–	–	–	–	-0.007
						(0.030)
Week day observation[d]	0.119***	0.118***	0.117***	0.117***	0.122***	0.121***
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Region[d]	yes	yes	yes	yes	yes	yes
Constant	0.602***	0.459***	0.539***	0.668***	0.707***	0.700***
	(0.029)	(0.141)	(0.160)	(0.169)	(0.187)	(0.192)
Observations	736	736	736	736	736	736
R-Squared	0.17	0.18	0.18	0.2	0.22	0.25
$p > Fb_0 = b_1$	0.77	0.80	0.81	0.83	0.71	0.50

Notes: Robust standard errors in brackets. The sample consists of individuals between 20 and 65 years of age who are married where both spouses work in the market full time, report positive earnings, report a usual day, and have children under 10 in the household. We report weighted tobit estimators. Routine childcare measures the time devoted to any childcare activity either as primary or secondary activity time devoted to childcare reported as either except playing with a child, and any other primary nonleisure activities (cleaning, shopping, eating, etc.) performed in the company of a young child. Estimates for home appliances are not shown, available upon request. [d] indicates a dummy variable that takes value 1 if the statement is satisfied and 0 otherwise. ** indicates significance at the 5 percent level; *** indicates significance at the 1 percent level.

Source: STUS 2002–3 (Spanish Statistical Office 2003).

reject a flat pattern of childcare specialization across a 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.

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 and €$3,500, a wife's share of childcare increases by 5.7 percentage points, compared with households with monthly incomes below €500. Additionally, we find that the weekday dummy is positive and statistically significant at the 99 percent level, perhaps reflecting that during weekdays 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. For the case of routine childcare, only the weekday dummy continues to be positive and statistically significant at the 99 percent level, 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 at the 95 percent level, in the case of routine childcare, increasing the ratio of childcare specialization by 7.7 and 6.7 percentage points for each additional 0- to 2- and 6- to 12-year-old child, respectively.

We have also explored the robustness of the previous results to the use of different specifications, variable definitions, and samples. We find that the results seem to be driven mainly by "routine housework" such as cleaning, cooking, ironing, shopping, and traveling, as opposed to *sporadic housework* such as gardening and car maintenance. The U-shaped relationship between housework and childcare and relative earnings is also robust to a continuous rather than discrete alternative definition of relative earnings. Controlling for hours of market paid work and restricting the sample to parents of children under 5 yields the same conclusions. (Results are available upon request.)

INTERPRETING THE RESULTS

The empirical results obtained by this study 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's; her relative share then stops increasing. However, a woman's share of childcare time displays a flat pattern with respect to her spouse's relative earnings throughout the entire relative earnings distribution. 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.

We now 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 the empirical results. We pay particular attention to the nature of social norms in Spain, whether regarding masculinity or femininity. We also look at systematic differences in the type of jobs held by women who earn more than their husbands and women who earn less than their husbands, and the role played by outsourcing.

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 also 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).

Panel A in Table 8 shows the estimated coefficients for the total amount of time devoted to *Housework* by men and women in our sample, respectively. The amount of time devoted to housework by a wife decreases as her relative earnings increase, but only up to the point where she earns the same as her husband. As in the empirical results found in Tables 5, 6, and 7, the last row of each panel in Table 8 shows that a Wald test for the null hypothesis that β_0 is equal to β_1 cannot be rejected at the 90 percent 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. Panel B in Table 8 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 nonlinear in relative earnings. In particular, a husband devotes 28.5 more minutes per day to routine childcare if his wife earns the same amount he does, in relation to husbands who earn more than their wives;

Table 8 Masculinity vs. femininity in gender roles

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: *Housework*						
				Wife		
Wife earns same as husband[d]	-24.908***	-25.444***	-24.466***	-22.346***	-22.346***	-23.007***
	(5.817)	(5.840)	(5.697)	(5.695)	(5.695)	(5.658)
Wife earns more than husband[d]	-37.042***	-34.427***	-29.037***	-23.151**	-23.151**	-23.726**
	(9.435)	(9.433)	(9.225)	(9.358)	(9.358)	(9.315)
Observations	2008	2008	2008	2008	2008	2008
R-Squared	0.01	0.01	0.01	0.01	0.01	0.01
$p > Fb_0 = b_1$	0.21	0.35	0.63	0.93	0.93	0.94
				Husband		
Wife earns same as husband[d]	12.301**	12.334**	12.004**	10.856	10.856	10.778
	(5.704)	(5.788)	(5.791)	(5.838)	(5.838)	(5.815)
Wife earns more than husband[d]	16.407	16.133	14.113	9.197	9.197	11.979
	(9.182)	(9.269)	(9.297)	(9.521)	(9.521)	(9.496)
Observations	2008	2008	2008	2008	2008	2008
R-Squared	0.01	0.01	0.01	0.01	0.01	0.01
$p > Fb_0 = b_1$	0.66	0.69	0.82	0.86	0.86	0.9
Panel B: *Childcare*						
				Wife		
Wife earns same as husband[d]	7.413	9.465	7.237	5.000	5.000	4.008
	(8.774)	(8.792)	(8.653)	(7.687)	(7.687)	(7.690)
Wife earns more than husband[d]	13.674	5.472	3.291	-2.972	-2.972	-5.442
	(15.074)	(15.237)	(14.972)	(13.408)	(13.408)	(13.442)
Observations	736	736	736	736	736	736
R-Squared	0.01	0.01	0.01	0.01	0.02	0.02
$p > Fb_0 = b_1$	0.26	0.43	0.42	0.34	0.34	0.39

(continued)

Table 8 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)
			Husband			
Wife earns same as husband[d]	28.917***	27.869***	29.034***	27.746***	27.746***	28.558***
	(8.508)	(8.708)	(8.677)	(8.680)	(8.680)	(8.653)
Wife earns more than husband[d]	12.094	15.832	16.928	13.356	13.356	15.571
	(14.727)	(15.109)	(15.048)	(15.212)	(15.212)	(15.213)
Observations	736	736	736	736	736	736
R-Squared	0.01	0.01	0.01	0.03	0.03	0.04
$p > Fb_0 = b_1$	0.68	0.79	0.79	0.55	0.55	0.48

Notes: Robust standard errors in brackets. The sample consists of individuals between 20 and 65 years of age who are married, where both spouses work in the market full time, report positive earnings, and report a usual day. We report weighted Tobit estimators. [d] indicates a dummy variable that takes value 1 if the statement is satisfied and 0 otherwise. ** indicates significance at the 5 percent level; *** indicates significance at the 1 percent level.

Source: STUS 2002–3 (Spanish Statistical Office 2003).

but this positive effect only exists up to the point where a wife earns the same amount as her husband and remains constant beyond that.

As in Brines (1994) and Greenstein (2000), the results in Table 8 for housework are in line with those found in US studies for the case of men. These authors also find a weak positive relationship between economic dependence and the number of hours of housework performed per week for husbands, is interpreted as evidence that it is masculinity norms, and not femininity norms, that are driving gender display. In contrast to the evidence for men, the results in Table 8 for women are in line with results for Australia in Bittman et al. (2003), where it is a wife's housework time, not a husband's, that increases when a wife earns more. The authors argue that the need to neutralize in the realm of home labor for women who deviate in the realm of paid work is greater in Australia than it is in the US, since women's employment is more secondary in Australia. Therefore, whereas femininity norms seem to be present in Australia, masculinity norms dominate in the US. It seems that both femininity and masculinity norms might be mediating doing gender in Spain, as both men and women move to a more traditional division of labor once a wife earns more than her husband. However, whereas masculinity norms seem to dominate housework time decisions in Spain, for childcare it seems that femininity norms dominate masculinity norms in Spain. The fact that women may insist on primary responsibility for children, either due to their own internalized sense of self-worth related to childcare or to some generalized view that a mother should care for the child, may be responsible for the flat pattern of mothers' childcare time with respect to mothers' relative earnings. The same pattern is not observed for a father's childcare time, which increases with the mother's relative earnings – at least up to the point when she earns the same as the father.[9]

A complementary approach to assess 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 – that is, 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 feel compelled to resort to more traditional divisions of housework and childcare, but that nontraditional husbands and wives do not. In the UK, Man 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 Equation 1. Since the

STUS contains no information on attitudes regarding the division of household labor, we operationalize 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; that is, 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 9 shows the main results regarding housework. We find that the nonlinear effect of relative earnings on relative housework is indeed mediated by attitudes regarding the household division of labor, and that it is a husband's attitudes that matter more than a wife's. It is in the traditional couples of our sample, especially those in which a husband is more traditional regarding the division of housework, that the share of housework fails to decrease as a wife's income surpasses her husband's. However, we find that the share of housework decreases as a wife's income surpasses her husband's income in the nontraditional marriages in our sample. Panel B of Table 9 shows the results for childcare. As with housework, there are also differential effects of relative earnings on childcare specialization, differing by how traditional the couple is. Unlike in the case of housework, however, the effect is dominated by a wife's attitudes. Whereas the relative amount of childcare falls for nontraditional women who earn more than their husbands, it remains constant if a wife is traditional.

The evidence presented in Tables 8 and 9 suggest that femininity and masculinity norms, in the way we have characterized them here, matter for housework and childcare. However, although norms of masculinity seem to be more important for housework, norms of femininity seem to dominate childcare. Consistent with particular norms of masculinity that make men feel that housework undermines their status, husbands devote little time to housework, and this time is independent of their wives' relative earnings and their wives' attitudes toward gender. Only in the case of a nontraditional husband do we observe decreases in his relative amount of housework time. 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 and independently of their spouses' gender attitudes.

Nature of paid work

The raw data show 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

Table 9 Masculinity and femininity attitudes vs. gender roles

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: *Housework*						
Wife earns same as husband[d]	-0.045*** (0.011)	-0.047*** (0.011)	-0.046*** (0.011)	-0.042*** (0.011)	-0.042*** (0.011)	-0.043*** (0.011)
Wife earns more than husband[d]	-0.326*** (0.028)	-0.318*** (0.028)	-0.308*** (0.028)	-0.292*** (0.028)	-0.292*** (0.028)	-0.294*** (0.028)
Wife earns more than husband* Trad. Wife[d]	0.196*** (0.032)	0.193*** (0.032)	0.186*** (0.032)	0.174*** (0.032)	0.174*** (0.032)	0.169*** (0.032)
Wife earns more than husband* Trad. Husband[d]	0.272*** (0.033)	0.264*** (0.032)	0.264*** (0.032)	0.264*** (0.032)	0.264*** (0.032)	0.265*** (0.032)
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 as husband[d]	-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[d]	-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[d]	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[d]	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: Robust standard errors in brackets. The sample consists of individuals between 20 and 65 years of age who are married, where both spouses work in the market full time, report positive earnings, and report a usual day. "Trad. Wife" indicates that the woman does more housework than the average amount of housework done by women in her relative earnings group. "Trad. Husband" indicates that the man does less housework than the average amount of housework done by men in his relative earnings group. We report weighted tobit estimators. [d] indicates a dummy variable that takes value 1 if the statement is satisfied and 0 otherwise. ** indicates significance at the 5 percent level; *** indicates significance at the 1 percent level.

Source: STUS 2002–3 (Spanish Statistical Office 2003).

Table 10 Nature of paid work: weekend vs. weekday

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: *housework*						
			Weekday			
Wife earns same as husband[d]	-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[d]	-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
$p > Fb_0 = b_1$	0.02	0.03	0.09	0.14	0.26	0.15
			Weekend			
Wife earns same as husband[d]	-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[d]	-0.080	-0.050	-0.050	-0.040	-0.020	-0.020
	(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
$p > Fb_0 = b_1$	0.97	0.59	0.57	0.46	0.40	0.31
Panel B: *Childcare*						
			Weekday			
Wife earns same as husband[d]	-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[d]	-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	0.07	0.11	0.11	0.14	0.16	0.19
$p > Fb_0 = b_1$	0.97	1.00	0.97	1.00	0.96	0.78
			Weekend			
Wife earns same as husband[d]	-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[d]	-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	0.28	0.59	0.62	0.62	0.70	0.91
$p > Fb_0 = b_1$	0.54	0.73	0.84	0.78	0.57	0.45

Notes: Robust standard errors in brackets. The sample consists of individuals between 20 and 65 years of age who are married, where both spouses work in the market full time, report positive earnings, and report a usual day. We report weighted Tobit estimators. [d] indicates a dummy variable that takes value 1 if the statement is satisfied and 0 otherwise. ** indicates significance at the 5 percent level; *** indicates significance at the 1 percent level.

Source: STUS 2002–3 (Spanish Statistical Office 2003).

Table 11 Nature of paid work: Job type

	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Supervisory						
				Housework		
Wife earns same as husband[d]	-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[d]	-0.045** (0.020)	-0.045** (0.020)	-0.040** (0.020)	-0.034 (0.020)	-0.030 (0.020)	-0.034 (0.020)
Wife earns more than husband* Supervisory[d]	-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
				Childcare		
Wife earns same as husband[d]	-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[d]	-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[d]	-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	0.8	0.84	0.88	0.92	0.92	0.92
Panel B: Private Sector						
				Housework		
Wife earns same as husband[d]	-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[d]	-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[d]	-0.019 (0.042)	-0.010 (0.042)	-0.002 (0.041)	0.001 (0.041)	0.003 (0.041)	0.000 (0.041)
Private Sector[d]	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

(continued)

Table 11 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)
R-Squared	0.34	0.44	0.59	0.63	0.72	0.77
			Childcare			
Wife earns same as husband[d]	-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[d]	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[d]	-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[d]	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	0.8	0.83	0.86	0.95	0.96

Notes: Robust standard errors in brackets. The sample consists of individuals between 20 and 65 years of age who are married, where both spouses work in the market full time, report positive earnings, and report a usual day. "Supervisory" indicates that the woman has a supervisory position. "Private Sector" indicates that the woman works in the private sector. We report weighted tobit estimators. [d]indicates a dummy variable that takes value 1 if the statement is satisfied and 0 otherwise. ** indicates significance at the 5 percent level; *** indicates significance at the 1 percent level.

Source: STUS 2002–3 (Spanish Statistical Office 2003).

their husbands. Pooling the sample of women with different types 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 weekdays 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.

Weekdays versus weekend days

One of the coefficients in Tables 5, 6, and 7 that is statistically significant at the 99 percent level 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 a woman earns more than her husband, pooling the sample of the weekdays 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 the women who earn more than their husbands are more constrained during weekdays, 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 weekday and the subsample of couples who filled out the diary on a weekend day. Panel A in Table 10 shows the results for housework over weekdays and weekend days respectively, and Panel B in Table 10 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 a wife's relative earnings independently of the day of the week, thus confirming the main results in Table 7 about the invariance of childcare time on partners' share of household income. Second, housework during weekdays resembles the pattern observed in the empirical results.

As in the pooled sample, in most specifications we cannot reject the null hypothesis that β_0 is equal to β_1 at the 95 percent level. Thus, during weekdays, 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 with women who earn the same as their husbands. This last result is in line with the doing-gender hypothesis.[10] All of these findings are consistent with the notion that women who earn more than their husbands postpone home labor activities to the weekend, to the extent that it is possible. The fact that we find that 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.

Type of job

To make our predictions more accurate, we differentiate between women with more demanding jobs and women with less demanding jobs to see whether the impact of the other variables on the hours of housework in the model remains the same across these two groups or whether the model describing these two groups is very different. We identify holding a supervisory post and working in the private sector as two different characterizations of demanding jobs and interact each of these variables with the dummy variable indicating that a woman earns more than her

husband. Somewhat surprisingly, in our sample only 13.76 percent of women with supervisory jobs belong to the category in which a woman earns more than her husband. Similarly, just 7.67 percent of women working in the private sector belong to the category in which a woman earns more than her husband.

Panel A in Table 11 shows the results when the supervisory dummy is added in the regression for housework and childcare respectively. The supervisory dummy is positive and statistically significant at the 99 percent level, both for housework and childcare, indicating that women with supervisory jobs tend to have a higher share of home labor in general – higher than both that of their husbands and of women not holding such jobs. The interaction with the dummy indicating that a wife earns more than her husband and the supervisory dummy is also statistically significant at the 99 percent level. In fact, earning more than a husband stops being statistically significant at the 95 percent level 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 decreases. Thus, having a more demanding job as captured by a supervisory post decreases the amount of housework when a woman in our sample earns more than her husband, which suggests that it is those women who earn more than their husbands and do not hold a supervisory role in their jobs who are subject to the doing-gender effect. Panel B in Table 11 shows the results when the private sector dummy is added in the regression for housework and childcare, respectively. Being in the private sector increases a wife's share of housework and childcare. The interaction with the dummy indicating that a wife earns more than her husband is, however, not statistically significant at the 95 percent level in any case. These results suggest that the doing-gender effect occurs independently of whether women who earn more than their husbands are working in the private sector.

The role of outsourcing

Outsourcing is an important intermediating variable between gender and housework or childcare. Indeed, one way that 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 the higher-income households in our sample where women earn more than their husbands, accounting for the lack of differentiation in the amount of relative home labor done between the women who earn the same as their husbands and the women who earn more than their husbands.

Limits to outsourcing may arise for high-income households where a wife earns more than a 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, on average, households where a wife earns more than her husband outsource more than households where a wife earns less than her husband, it could still be that the former households 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 hypotheses 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 their gender identity, whereas the limits-to-outsourcing concept suggests 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 aimed 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.

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 (that is, those households that have the means 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. In both cases, we find no differential effect between rich and poor households, meaning that the nonlinearities in relative earnings are independent of whether the household is rich or poor (results available from the authors).

Another possible way to explore the limits-to-outsourcing hypothesis is to include outsourcing as a left-hand-side variable, and see how women's 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 nonlinearities 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 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. In our sample, 7 percent of households receive outside help in cooking, 19 percent receive outside help in household maintenance, and 3 and 4 percent receive 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 for the caring of children, and we use that definition for our sample of parents. Within our sample, about 56 percent of households with children under 10 report using outside help for childcare. We find no statistically significant correlations of women's relative earnings in either the levels of outside help in household production activities and childcare or the level of paid housekeeping. Interestingly, the relative earnings coefficients cease to be statistically 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.

CONCLUSION

This paper examines the role of the doing-gender hypothesis versus traditional models of the household in explaining women's relative share of home labor. Our findings yield no support for the hypothesis that the division of home labor is driven by either 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's. Our main finding for housework specialization yields support for the doing-gender hypothesis, which predicts 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 childcare.

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 a wife's relative earnings independently of the day of the week, which suggests that childcare is more difficult to shift from weekdays to weekends. We find evidence suggesting that it is women who earn more than their husbands and do not hold a supervisory role in their jobs who 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 that is beyond the scope of this paper. However, to the extent that gender roles limit what can be bargained over (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 for 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 (Stephanie Seguino 2007). Family policies that challenge the existing gender structure, such as paternity leave policies, may constitute a good starting-point for successfully shifting the household division of labor in a more egalitarian direction.

Almudena Sevilla-Sanz
Department of Economics and Centre for Time Use Research
University of Oxford
Manor Road, Oxford OX1 3UQ, United Kingdom
e-mail: almudena.sevilla@economics.ox.ac.uk

Jose Ignacio Gimenez-Nadal
Department of Economic Analysis, Faculty of Economics
University of Zaragoza
Gran Vía 2, 50005 Zaragoza, Spain
e-mail: ngimenez@unizar.es

Cristina Fernández
Research Department, Bank of Spain
Alcalá 48, 28014 Madrid, Spain
e-mail: cfvidaurreta@gmail.com

ACKNOWLEDGMENTS

The authors are grateful to Daniel Hamermesh and Manuel F. Bagues and the associate editor and anonymous reviewers for their comments. We also thank participants at the Joint Empirical Social Science Seminar at ISER, participants at the IZA-SOLE Transatlantic Meetings of Labor Economists, and participants at the ESPE Congress in Verona. The Economic and Social Research Council-Grant number RES-060-25-0037 and the Spanish Ministry of Education and Science (Project ECO2008-01297) supported this article. Remaining errors are our exclusive responsibility.

NOTES

[1] Unless otherwise specified, all subsequent references to households and couples are to heterosexual, married couples and their households.

[2] For an overview of exchange theory, see Karen S. Cook (1987) and Linda D. Molm and Karen S. Cook (1995). For applications to marital power, see David M. Heer (1963), John Scanzoni (1979), and Molm and Cook (1995).

[3] Nancy Folbre (1994) has already highlighted the importance of gender identity for collective action that preserves male privilege.

[4] Weighted Ordinary Least Squares (OLS) did not change the results in a statistically significant way. (Weighted OLS results are available from the authors upon request.)

[5] Despite the lack of theoretical motivation, the threat point is usually characterized in the literature as the couple's relative earnings.

[6] To our knowledge there are only two time-use diary surveys with a panel component: the 2000–2 Home On-line Survey for the UK, and the 1975–6 America'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.

[7] A full description of activities can be found in the Spanish Statistical Office, http://www.ine.es/prodyser/micro_emptiem.htm.

[8] Results using either *childcare2* or *childcare3* are qualitatively the same and are available upon request.

[9] Ronald R. Rindfuss, Karin L. Brewster, and Andrew L. Kavee (1996) attribute the lower decrease in fertility in the US, as compared to other industrialized countries, to the decreased in the percentage of Americans who think that preschool children will suffer if their mothers work in the market.

[10] This result must be interpreted cautiously, given that there are very few women with earnings higher than their husbands in our weekend sample.

REFERENCES

Agarwal, Bina. 1997. "'Bargaining' and Gender Relations: Within and Beyond the Household." *Feminist Economics* 3(1): 1–51.

Aguiar, Mark and Erik Hurst. 2007. "Measuring Trends in Leisure: The Allocation of Time over Five Decades." *Quarterly Journal of Economics* 122(3): 969–1006.

Akerlof, George A. and Rachel E. Kranton. 2000. "Economics and Identity." *Quarterly Journal of Economics* 115(3): 715–53.

Álvarez, Begoña and Daniel Miles. 2003. "Gender Effects on Housework Allocation: Evidence from Spanish Two-Earner Couples." *Journal of Population Economics* 16(2): 227–42.

Becker, Gary S. 1985. "Human Capital, Effort, and the Sexual Division of Labor." *Journal of Labor Economics* 3(1): S33–S58.

Becker, Gary S., Kevin M. Murphy, and Robert Tamura. 1990. "Human Capital, Fertility, and Economic Growth." *Journal of Political Economy* 98(5): S12–S37.

Bianchi, Suzanne M. 2000. "Maternal Employment and Time with Children: Dramatic Change or Surprising Continuity?" *Demography* 37(4): 401–14.

Bianchi, Suzanne M., John P. Robinson, and Melissa A. Milkie. 2006. *Changing Rhythms of American Family Life*. New York: Russell Sage Foundation.

Bianchi, Suzanne, Vanessa Wight, and Sara Raley. 2006. "Maternal Employment and Family Caregiving: Rethinking Time with Children in the ATUS." Paper presented at American Time Use Survey (ATUS) Early Results Conference, Maryland.

Bittman, Michael, Paula England, Nancy Folbre, Liana Sayer, and George Matheson. 2003. "When Does Gender Trump Money? Bargaining and Time in Household Work." *The American Journal of Sociology* 109(1): 186–214.

Bittman, Michael and Judy Wajcman. 2000. "The Rush Hour: the Character of Leisure Time and Gender Equity." *Social Forces* 79(1): 165–89.

Bonke, Jens, Nabanita Datta Gupta, and Nina Smith. 2005. "The Timing and Flexibility of Housework and Men's and Women's Wages," in Daniel S. Hamermesh and Gerard A. Pfann, eds. *The Economics of Time Use*. pp. 43–78. San Diego, CA: Elsevier.

Brines, Julie. 1994. "Economic Dependency, Gender, and the Division of Labor at Home." *American Journal of Sociology* 100(3): 652–88.

Budig, Michael J. and Nancy Folbre. 2004. "Activity, Proximity, or Responsibility? Measuring Parental Childcare Time," in Nancy Folbre and Michael Bittman, eds. *Family Time: The Social Organization of Care*. pp. 51–68. New York: Routledge.

Burda, Michael, Daniel Hamermesh, and Philippe Weil. 2008. "The Distribution of Total Work in the EU and US," in Tito Boeri, Michael Burda, and Francis Kramarz, eds. *Working Hours and Job Sharing in the EU and USA: Are Europeans Lazy? Or Americans Crazy?* pp. 12–91. New York: Oxford University Press.

Carrasco, Cristina, and Arantxa Rodriguez. 2000. "Women, Families, and Work in Spain: Structural Changes and New Demands." *Feminist Economics* 6(1): 45–57.

Center for Time Use Research. 2006. *Multinational Time Use Survey, Version World 5.5.2*. http://www.timeuse.org/mtus (accessed September 2010).

Coltrane, Scott. 1989. "Household Labor and the Routine Production of Gender." *Social Problems* 36(5): 473–90.

Coltrane, Scott. 2000. "Research on Household Labor: Modeling and Measuring the Social Embeddedness of Routine Family Work." *Journal of Marriage and the Family* 62(4): 1208–33.

Connelly, Rachel, and Jean Kimmel. 2009. "Spousal Influences on Parents' Non-Market Time Choices." *Review of Economics of the Household* 7(1): 361–94.

Cook, Karen S. 1987. *Social Exchange Theory*. Newbury Park, CA: Sage.

de Laat, Joost and Almudena Sevilla-Sanz. Forthcoming. "Men's Housework Time, Female Labor Force Participation and Fertility." *Feminist Economics*.

Evertsson, Marie and Magnus Nermo. 2004. "Dependence within Families and the Division of Labor: Comparing Sweden and the United States." *Journal of Marriage and Family* 66(5): 1272–86.

Feyrer, James, Bruce Sacerdote, and Ariel D. Stern. 2008. "Will the Stork Return to Europe and Japan? Understanding Fertility within Developed Nations." *Journal of Economic Perspectives* 22(3): 3–22.

Folbre, Nancy. 1994. *Who Pays for the Kids: Gender and the Structures of Constraint*. New York: Routledge.

Folbre, Nancy and Michael Bittman, eds. 2004. *Family Time: The Social Organization of Care.* New York: Routledge.

Folbre, Nancy and Jayoung Yoon. 2007. "What is Child Care? Lessons from Time-Use Surveys of Major English-Speaker Countries." *Review of Economics of the Households* 5(3): 223–48.

Folbre, Nancy, Jayoung Yoon, Kade Finnoff, and Allison Sidle Fuligni. 2005. "By What Measure? Family Time Devoted to Children in the United States." *Demography* 42(2): 373–90.

Gauthier, Anne H., Timothy M. Smeeding, and Frank F. Furstenberg, Jr. 2004. "Are Parents Investing Less Time in Children? Trends in Selected Industrialized Countries." *Population and Development Review* 30(4): 647–71.

Gershuny, Jonathan. 2000. *Changing Times: Work and Leisure in Postindustrial Society.* Oxford: Oxford University Press.

Greenstein, Theodore N. 2000. "Economic Dependence, Gender, and the Division of Labor in the Home: A Replication and Extension." *Journal of Marriage and Family* 62(2): 322–35.

Gupta, Sanjiv. 1999. "The Effects of Transitions in Marital Status on Men's Performance of Housework." *Journal of Marriage and Family* 61(3): 700–11.

Guryan, Jonathan, Erik Hurst, and Melissa Kearney. 2008. "Parental Education and Parental Time with Children." *Journal of Economic Perspectives* 22(3): 23–46.

Haveman, Robert and Barbara Wolfe. 1995. "The Determinants of Children's Attainments: A Review of Methods and Findings." *Journal of Economic Literature* 33(4): 1829–78.

Heer, David M. 1963. "The Measurement and Bases of Family Power: An Overview." *Marriage and Family Living* 25(2): 133–9.

Hersch, Joni, and Leslie S. Stratton. 2000. "Household Specialization and the Male Marriage Wage Premium." *Industrial and Labor Relations Review* 54(1): 78–94.

Hill, C. Russell and Frank P. Stafford. 1974. "Allocation of Time to Preschool Children and Educational Opportunity." *The Journal of Human Resources* 9(3): 323–41.

Horrigan, Michael and Diane Herz. 2004. "Planning, Designing, and Executing the BLS American Time-Use Survey." *Monthly Labor Review* 127(10): 3–19.

Hochschild, Arlie Russell and Anne Machung. 1989. *The Second Shift: Working Parents and the Revolution at Home.* New York: Viking.

Juster, F. Thomas. 1985. "The Validity and Quality of Time Use Estimates Obtained from Recall Diaries," in F. Thomas Juster and Frank P. Stafford, eds. *Time, Goods, and Well-Being.* pp. 63–91. Ann Arbor: University of Michigan Press.

Juster, F. Thomas and Frank P. Stafford. 1991. "The Allocation of Time: Empirical Findings, Behavioral Models, and Problems of Measurement." *Journal of Economic Literature* 29(2): 471–522.

Kan, Man Yee 2008. "Does Gender Trump Money? Housework Hours of Husbands and Wives in Britain." *Work, Employment and Society* 22(1): 45–66.

Kimmel, Jean and Rachel Connelly. 2007. "Mothers' Time Choices: Caregiving, Leisure, Home Production, and Paid Work." *Journal of Human Resources* 42(3): 643–81.

Krueger, Alan B., Daniel Kahneman, David Schkade, Norbert Schwarz, and Arthur A. Stone. 2009. "National Time Accounting: The Currency of Life," in Alan B. Krueger, ed. *Measuring the Subjective Well-Being of Nations: National Accounts of Time Use and Well-Being.* pp. 9–86. Chicago: University of Chicago Press.

Lam, David. 1988. "Marriage Markets and Assortative Mating with Household Public Goods: Theoretical Results and Empirical Implications." *The Journal of Human Resources* 23(4): 462–87.

Lundberg, Shelly and Robert A. Pollak. 1996. "Bargaining and Distribution in Marriage." *The Journal of Economic Perspectives* 10(4): 139–58.

Manser, Marilyn and Murray Brown. 1980. "Marriage and Household Decision-Making: A Bargaining Analysis." *International Economic Review* 21(1): 31–44.

Mattingly, Marybeth J. and Suzanne M. Bianchi. 2003. "Gender Differences in the Quantity and Quality of Free Time: The US Experience." *Social Forces* 81(3): 999–1030.

McElroy, Marjorie B. and Mary Jean Horney. 1981. "Nash-Bargained Household Decisions: Toward a Generalization of the Theory of Demand." *International Economics Review* 22(2): 333–49.

Mincer, Jacob. 1974. *Schooling, Experience, and Earnings*. New York: Columbia University Press.

Molm, Linda D., and Karen S. Cook. 1995. "Social Exchange and Exchange Networks," in Karen S. Cook, Gary Alan Fine, and James S. House, eds. *Sociological Perspectives on Social Psychology*. pp. 209–35. Boston: Allyn and Bacon.

Rindfuss, Ronald R., Karin L. Brewster and Andrew L. Kavee. 1996. "Women, Work, and Children: Behavioral and Attitudinal Change in the United States." *Population and Development Review* 22(3): 457–82.

Robinson, John P. and Geoffrey Godbey. 1985. *Time for Life: The Surprising Ways Americans Use Their Time*. University Park: Pennsylvania State University Press.

Sayer, Liana C., Anne H. Gauthier, and Frank F. Furstenberg. 2004. "Educational Differences in Parents' Time with Children: Cross-National Variations." *Journal of Marriage and Family* 66(5): 1152–69.

Scanzoni, John. 1979. "A Historical Perspective on Husband-Wife Bargaining Power and Marital Dissolution," in George Levinger and Oliver C. Moles, eds. *Divorce and Separation*. pp. 20–36. New York: Basic Books.

Seguino, Stephanie. 2007. "Plus Ça Change? Evidence on Global Trends in Gender Norms and Stereotypes." *Feminist Economics* 13(2): 1–28.

Sevilla-Sanz, Almudena. 2010. "Division of Household Labor and Cross-Country Differences in Household Formation Rates." *Journal of Population Economics* 23(1): 225–49.

Sigle-Rushton, Wendy and Jane Waldfogel. 2007. "Motherhood and Women's Earnings in Anglo-American, Continental European, and Nordic Countries." *Feminist Economics* 13(2): 55–91.

Spanish Statistical Office. 2003. "Encuesta de Empleo del Tiempo 2002–2003. Proyecto Metodológico." www.ine.es/proyectos/eet0203/proy_eet0203.pdf (accessed September 2010).

Sullivan, Oriel. Forthcoming a. "Gender Deviance Neutralizatian Through Housework—Where Does it fit in the Bigger Picture? Response to England, Kluwer and Risman." *Journal of Family Theory and Review* 3(1).

———. Forthcoming b. "An End to Gender Deviance Neutralization Through Housework? A Review and Reassessment of the Quantitative Literature Using Insights from the Qualitative Literature." *Journal of Family Theory and Review* 3(1).

Väisänen, Paavo. 2006. "Mean of Episode Lengths as a Quality Indicator of Time Use Diaries." Paper presented at the 28th International Association for Time-Use Research (IATUR) Annual Conference, Copenhagen.