SELF-EMPLOYED MOTHERS: THE WORK-LIFE BALANCING ACT

ABSTRACT

We analyze how self-employed and employed mothers distribute their market and non-market time in order to see whether they balance work and family better. To that end, we use time diary information from a country representing a low level of women's participation in the labor market (Spanish Time Use Survey, 2002-2003). We find that self-employed mothers devote less time to *Market Work* activities than employed mothers, although there are no differences in the amount of time devoted to *Child Care*, *Housewor*k and *Leisure* activities. However, our results confirm the hypothesis that mothers may choose self-employment as a way to improve their work-life balance, since they have a greater flexibility in *Market Work*, *Child Care* and *Housework*. In this sense, a self-employed individual is perceived as having greater control over the timing of work (flexible hours) and may therefore be able to work during school hours, or after the children have gone to bed. Alternatively, the self-employed individual may more easily work when a spouse or other family member is available to care for the children.

KEYWORDS

Mothers, Self-employment, Childcare, Time Allocation, Flexibility, Timing.

JEL CODES: C14, D13, J12, J13, J22

INTRODUCTION

Recent decades have brought about a noticeable change in the role of women in the labor market. The participation rate in the United States, as in Northern European countries, is approximately 70%, this figure being significantly higher than in Southern European countries, such as Spain, which shows a participation rate of around 58% (OECD [2005]). Moreover, female workers in Spain have mostly full-time jobs, although the share of part-time jobs has been increasing lately, but still only accounting for 15%, which is very low compared to other Central European countries, such as the Netherlands at 54% or Switzerland at 47% (Jaumotte [2003]).

These figures point to changes in social or gender roles (Layard [2005]).[1] Roles within the family have changed, the traditional division of labor (husbands earned the money and wives took care of the home and family) is disappearing, and many wives have now become paid workers as well as homemakers. However, most women continue to do more of the housework and parenting, with this creating an extra strain (what has been called a "double burden" or "second shift"). On average, European women between 20 and 74 years old spend much more time than men on domestic work, ranging from less than 50% more in Sweden, to over 200% more in Italy and Spain. Spanish men devote 1.37 hours per day to domestic work, while women devote 4.55 hours per day to these tasks (Aliaga [2006]).[2] As a result, women feel more stressed and pressured, and have less social interaction, despite increases in the quantity of leisure over time (Aguiar and Hurst [2007]).

Against this background, one commonly-held view of women's motives to choose self-employment is a desire for flexible hours and the ability to spend more time caring for children, that is to say, a better work-life balance.[3] The growth of self-employment among both men and women in the 1970's and 80's gave rise to a large body of economic literature examining the determinants of entrepreneurial behavior. In this sense, the notion that the desire for self-employment among women is related to their household responsibilities, including caring for children, is well established in the literature (Presser [1989], Connely [1992], Cuputo and Dolinsky [1998], Boden [1999], Hundley [2000]).

The objective of this paper is to extend the evidence of the previous literature on self-employed women to working mothers, and to test some associated hypotheses

by using data from a country representing a low level of women's participation in the labor market.[4] A special advantage of our study is that we use a time use survey which provides time diary information on the full range of daily activities. Specifically, we use the Spanish Time Use Survey-STUS (2002-2003) to first test whether self-employed mothers spend more time caring for their children than do employed mothers. Second, we compare the timing of work for both groups, focusing on whether self-employed mothers have greater flexibility in their working hours, which allows them to work during school hours and unusual hours, and devote time to childcare activities while their partners are at work.

We find self-employed mothers devote less time to market work, although we find no statistically significant difference in the amount of time devoted to childcare, housework and leisure. Regarding time flexibility, we find that the childcare activities of self-employed mothers are more spread out over the day, with a higher proportion of childcare being done in the morning. This is consistent with the hypothesis that a greater flexibility in work hours allows for a better balance of family duties, since a greater part of market work can be done at odd hours, while the partners are at home caring for the children.

The paper is organized as follows. The following section reviews the literature on the different reasons to choose self-employment. We then present the data and variables. Next, we describe the empirical strategy and the results for the STUS, followed by the results of our analyses. Finally, we present our conclusions.

LITERATURE REVIEW

Many issues have occupied the attention of policy-makers and scholars interested in childcare. Some studies have examined the influence of costs, or availability of care services, on female labor market decisions (Heckman [1974], Kreyenfeld and Hank [2000]). Others have studied the effect on fertility decisions (Blau and Robins [1989], Anderson et al. [2004]). Still others have analyzed the demand for specific modes of care services. Among these latter, some consider simultaneously the employment supply decision (Blau and Hagy [1988], Ribar [1995], Powell [2002], Dorion and Kalb [2005]), others analyze the transition between different modes (Ondrich and Spies [1998], Camasso and Roche [1991]) and there are

studies focused exclusively on the election of the mode of care (Hofferth and Wissoker [1992], Hofferth and Chaplin [1998], Connelly and Kimmel [2003], Del Bocca et al. [2003]).

The growth of self-employment among women in the 1970's and 80's gave rise to a large body of economic literature examining the determinants of entrepreneurial behavior. One commonly-held view of women's motives to choose self-employment is a desire for flexible hours, and the ability to spend more time caring for children. In this sense, the notion that the desire for self-employment among women is related to their household responsibilities, including caring for children, is well established in the literature (Boden [1999], Cuputo and Dolinsky [1998], Connely [1992], Hundley [2000], Presser [1989]). The previous hypothesized relationship between self-employment and childcare stems from several sources. First, an individual in self-employment is perceived as having greater control over the timing of work (flexible hours). An individual may therefore be able to work during school hours, or after children have gone to bed. Alternatively, the self-employed individual may more easily work odd shifts or part-time, when a spouse or other family member is available to care for the children. Second, the self-employed individual may be able to work at home, which allows for even greater flexibility. Third, self-employment is perceived as offering greater flexibility in the quantity of hours worked. That is, the individual can work part-time in self-employment, where he or she could be required to work full-time in the wage-employment sector. Finally, the self-employed individual may have greater control over the effort expended at work, allowing her to conserve the resources required for childcare.

There is evidence to support some of these hypotheses. For example, the self-employed are more likely to work part-time than are the wage-employed (Devine [1994], Williams [2000]). In addition, the majority of workers who are "home-based" are self-employed (Edwards and Field-Hendrey [1996]). However, given the great amounts of time and effort required to make a venture into self-employment successful, it is possible that the presumed relationship between self-employment and time spent caring for children does not hold. Unfortunately, the evidence regarding self-employment and childcare activities is weak. What we do know is that the number of children in the home is positively related to the probability of self-employment, at least among women, as is the number of young children (Boden

[1999], Cuputo and Dolinsky [1998], Connelly [1992]). Similarly, the number of children at home is correlated with home-based work (Edwards and Field-Hendrey [1996]). From this evidence, authors have inferred that the self-employed are in that state in order to spend more time with their children. None of the above work answers directly, however, the question of whether self-employed individuals do indeed spend more time caring for their children.

Hildebrand and Williams [2003] provide little support for the hypothesis that the self-employed spend more time caring for children than do other employed workers. Indeed, in many southern European countries, self-employed women on average spend less time caring for children than do other employed women. However, these lasts results are based on time-estimates questions, where people must "estimate" how much time they spend on a given activity. The advantage of using a time use survey is more robust estimates of the time devoted to market work, home production and childcare activities (Robinson and Godbey [1997], Hege and Hovde [2005], Bittman and Wajcman [2005]).[5]

Robinson and Godbey [2000] contend that time diary information is more reliable than time-estimates, since time estimates are too subjective. Hege and Hovde [2005] find that, looking at all adults, there are only modest differences in the time-estimates between the two methods, but the gap varies considerably between age groups. Bittman and Wajcman [2005] contrast two different measures of care time: an estimated average weekly hours question, and diary estimates from the 1997 national Australian Time Use Survey. They find that diaries provide information for a more robust estimate. Another major advantage of time diary-based evidence is that time spent on different sorts of activities (paid work, unpaid work, personal care and so forth) can be added together to sum to exactly the 1440 minutes of the day.

However, previous studies (Robinson and Godbey [2000], Aguiar and Hurst [2007]) have focused on overall averages of time devoted to each activity, ignoring the rich contextual information available in these historical diary accounts, such as who else was present during an activity, and when or where the activity occurred. Additionally, time-use surveys allow for the study of the timing of these activities to identify changes in the underlying "time-profiles" of activities throughout the day. Hamermesh [1998] stresses the importance of timing, and Hamermesh [2005] finds that work in the evening and at night declined sharply in the United States between the

1970's and the 1990's. At the same time, the regular workday expanded, with none of the changes due to the changing demographic structure of the American labor force.[6]

DATA AND EMPIRICAL STRATEGY

We use the Spanish Time Use Survey-STUS (2002-2003), which collects information on how people living in Spain spend their time. This is the first Spanish survey conducted in conjunction with other European countries, following the recommendations of EUROSTAT. The general sample is restricted to include only "non-retired/non-student" mothers of children under 18, with individuals between the ages of 19 and 65 (inclusive), employees or self-employed. We also restrict the sample to include only parents who have time diaries that sum to a complete day (1440 minutes), including no more than 60 minutes unaccounted for.[7] Additionally, we look at working days because free time or leisure is more valuable the less time you have to spare. Thus, time stress would be more important when total spare time is scarcer, and the work-life balance may be more affected, since the time constraint is more likely to become binding during a work day when spare time is scarce.

The first thing to be considered when studying time use categories is that the number of different activities (combinations of goods and time) that one might consider is very great. We need to devise some way to aggregate these activities into useful economic categories, in order to discuss and measure them. There is no single correct way of classifying these activities and their time inputs, since aggregation methods are necessarily arbitrary.

Following Burda et al. [2008], we initially consider four types of activities: *Market Work, Household Production, Tertiary Activities* and *Leisure*. The first type of activity is that for which people are paid: *Market Work*. We assume that people would not be working the marginal hour in the market if they were not paid, so that, at the margin, *Market Work* is not enjoyable (or at least is less enjoyable than any non-work activity). Some of the activities in which we engage at home, using our own time and some purchased goods, are those for which we could purchase substitutes from the market, instead of performing them ourselves. Such *Household Production* activities have the common characteristic that we could pay somebody to perform them for us, and we are not paid for performing them.

Other activities are things that we cannot pay other people to do for us, but that we must do for ourselves, at least to some extent. We must sleep or eat for ourselves in order to derive any benefits from these activities. Such *Tertiary Activities* form the third general aggregate. The fourth aggregate is *Leisure*. We include in this category all activities that we cannot pay somebody else to do for us, and that we do not really have to do at all if we do not wish to. Watching television, attending religious services, reading a newspaper, chatting with friends... are all included in *Leisure*. By definition, *Leisure* is inherently satisfying; but so is some (probably infra-marginal) *Household Production*, such as the first few minutes spent mowing the lawn, or the first time one reads a book to one's three-year-old. What distinguishes *Leisure* from other types of home activities is that one can function perfectly well (albeit not happily) with no leisure whatsoever (*Leisure* is not necessary for survival).

We focus on *Market Work*, *Household Production* (*Housework*) and *Leisure.* Additionally, *Child Care* poses a conceptual challenge (Aguiar and Hurst [2007]). It has been argued that *Child Care* differs from housework in terms of the utility generated. For example, when asked to assess the satisfaction they receive from various activities, individuals consistently rank time spent playing with and reading to their children as being among the most enjoyable (Robinson and Godbey [2000]). Furthermore, individuals consistently report that general *Child Care* is more enjoyable than activities such as housework, grocery shopping, yard work, cleaning, doing dishes and laundry.[8] Such survey evidence suggests that it may be appropriate to examine *Child Care* separately from other categories of time use and, therefore, we analyze *Child Care* separately from *Household Production.*

For the analysis of *Child Care*, it is crucial to sort *Child Care* time into its various categories (Gutierrez-Domenech [2007]), since the degree of human capital enrichment in each activity will have different effects on child outcomes. Zick et al. [2001] show, for example, that more parental involvement in reading/homework activities decreases behavioral problems and improves the grades of the children. As a result, *Child Care* is divided into basic (e.g. feeding) and quality care (e.g. reading, playing). Additionally, since we may find differences in the total time spent on *Child Care* between employees and self-employed, we define the *Percentage of Basic Child Care* and the *Percentage of Quality Child Care*.

Furthermore, we use several indicators that take advantage of the richness of the diary structure of the data. The first two indicators are related to the nature of the secondary activity that is combined with the primary activity. The primary activity constitutes the main activity the respondent engages in at a particular point in the diary. However, respondents frequently engage in more than a single activity at the same time. Thus, the secondary activity is the activity that is done at the same time as the main activity, and complements the main activity. For this reason, we use two indicators that take into account the combination of *Market Work* with *Child Care*. We define the *Child Care (Prim.) with Market Work (Sec.)* variable that takes into account the amount of *Child Care* that is combined with *Market Work* as secondary activity. In a similar way, we define the *Market Work (Prim.) with Child Care (Sec.)* variable.

Finally, we take into account the presence of children during market work activities (passive Child Care, Gutierrez-Domenech [2007]). Self-employed parents may be able to work at home and take care of their children while they are working. Therefore, we use an indicator that takes into account the amount of *Market Work* done with children under 10 present (*Market Work with Children present*).[9] We should expect self-employed people to spend more time in *Market Work* activities while children are present.

However, since the amount of time devoted to *Market Work* and *Child Care* may be different across gender, or across self-employment status, we also use indicators with the percentage of time devoted to *Child Care* as primary activity and *Market Work* as secondary activity, out of the amount of time devoted to *Child Care* (*Perc. Child Care (Prim.) with Market Work (Sec.)*)**,** the percentage of time devoted to *Market Work* as primary activity, and *Child Care* as secondary activity, out of the amount of time devoted to *Market Work* (*Perc. Market Work (Prim.) with Child Care (Sec.)*), and the percentage of time devoted to *Market Work* with children under 10 present, out of the amount of time devoted to *Market Work* (*Perc. Market Work with Chidren present*).[10]

Table 1 shows means and standard deviations of the variables for working mothers in a working day. We find no significant differences in the amount of time devoted to any given activity, in the combination of *Child Care* and *Market Work*, and in the presence of children during the *Market Work* activities.

(Table 1)

The self-employed devote less time to *Child Care* and *Leisure*, and more time to *Market Work* and *Home Production*, although these differences are not statistically significant. Employees and self-employed women devote the same amount of time to *Basic Child Care* and *Quality Child Care*, with similar percentages of *Basic Child Care* and *Quality Child Care.* Regarding the combination of *Child Care* and *Market Work*, the amount of time is very low, less than one minute per day, with no significant differences between the groups. For the amount of *Market Work* done with children under 10 present, employees and self-employed devote 13.44 and 10.80 minutes per day, respectively, with this difference not being statistically significant. For the *Perc. Child Care (Prim.) with Market Work (Sec.)***,** *Perc. Market Work (Prim.) with Child Care (Sec.)* and *Perc. Market Work with Chidren present* variables, we find no differences between the groups.

Therefore, we find no significant difference in the amount of time devoted to non-market work between employed and self-employed mothers. With this evidence, we could think that self-employment is not chosen as a way of improving the work-life balance. However, in this analysis, we do not consider personal and family characteristics such as age, educational attainment and number of children.

In our empirical analysis, we condition the time allocation decisions on demographics. Thus, we estimate the following equation for each time use category and indicator:

$$Y_i = \alpha + \gamma_{personal} Personal_i + \gamma_{family} Family_i + \gamma_{self} Self_i + \gamma_{Day} Day_i + \varepsilon_i$$

where Y_{it} is the time use variable or indicator for individual "i"; $Personal_{it}$ is a vector of personal characteristics (age, age squared, foreigner, health status, Civic status, Working Part-Time, Imputed Wage Rate); $Family_{it}$ is a vector of family characteristics (Number of Children 1-4, Number of Children 5-12, Number of Children 13-17, Number of Family Members); $Self_i$ is a "dummy" variable that takes value "1" if the person is self-employed, and "0" otherwise; and Day_{it} is a variable scaling the day of the week when the survey took place.[11] Table 2 shows the demographic and family controls.

(Table 2)

RESULTS

Table 3 shows the results of estimating a regression model for each dependent variable. First, we analyze the time devoted to *Market Work*, *Housework*, *Child Car*e and *Leisure*.

(Table 3)

We observe that age has a positive correlation with the time devoted to *Child Care*, with this correlation being statistically significant at the 5% level. In this sense, an additional year increases the amount of time devoted to *Child Care* during a working day by 5.54 minutes. However, this effect is not permanent, since we find a negative and significant correlation of age squared with *Child Care*. As a result, age has an inverted u-shape effect on *Child Care*, with the maximum reached at the age of 35. For the remaining time use categories, age has no significant effects.

The number of members in the household has a significant negative effect on the time devoted to *Child Care*, evidence that additional members may help at home with the child care tasks. This leads to a decrease in the amount of time devoted to *Child Care* by women, given that an additional member in the family reduces the time devoted to *Child Care* by 7.80 minutes in a working day. The civic, foreigner and health status have no effects on the time devoted to any given activity in a working day. Regarding education, university education has a statistically significant negative correlation with the time devoted to *Home Production*, with highly educated women devoting 39.10 less minutes to *Home Production* per working day than women with primary education. University education has no effect on the other time use categories, while secondary education has no effect on the time devoted to any time use category.

Children have important effects on the allocation of time in a working day. In this sense, the number of children under 5 has a significant positive correlation with the time devoted to *Child Care* (61.47 more minutes per day), and a significant negative correlation with the time devoted to *Leisure* (21.25 less minutes per working day for each additional child). The number of children between 5 and 12 has significant positive correlations with the time devoted to *Child Care* and *Home Production* (10.42 and 19.36 more minutes per day for each additional child, respectively), and a significant negative correlation with the time devoted to *Market*

Work (20.66 less minutes per working day for each additional child). Finally, children between 13 and 17 have a significant negative correlation with the time devoted to *Child Care* (10.45 less minutes per working day for each additional child) and a significant positive correlation with the time devoted to *Home Production* (19.80 more minutes per day for each additional child).

We now analyze the variables regarding work status. On the one hand, working part-time has a negative correlation with the time devoted to *Market Work*, while it has significant positive correlations with the time devoted to *Child Care*, *Home Production* and *Leisure*. As a result, working part-time reduces the time devoted to *Market Work* in a working day by 118.79 minutes, while it increases the time devoted to *Child Care*, *Home Production* and *Leisure* by 13.11, 53.83 and 29.91 minutes, respectively. On the other hand, the imputed wage rate has a positive correlation with the time devoted to *Market Work*, while it has significant negative correlations with the time devoted to *Child Care*, *Home Production* and *Leisure*.

Being self-employed only has a significant correlation with the time devoted to *Market Work*, with no significant correlations with other activities. Specifically, being self-employed decreases the time devoted to *Market Work* in a working day by 39.78 minutes. Therefore, the self-employed choose this option, not as a way of improving the work-life balance, but for other reasons. As a result, women do not change their distribution of time devoted to *Child Care* regarding self-employment. It seems that self-employment is not chosen as a way to improve the work-life balance.

We now analyze the combination of activities and the presence of children. We focus on the coefficients regarding self-employment. We only find a statistically significant coefficient for women in the time devoted to *Market Work* combined with *Child Care*, with self-employed mothers devoting 0.12 less minutes per day to these activities. However, given that the total amount of *Market Work* combined with *Child Care* is very small, we do not consider this difference to be important.

The other coefficients are not significant. As a result, after studying the combination of activities and the presence of children during these activities, we find no evidence to support some of the above hypotheses, and we find no evidence to support the notion that self-employed mothers have greater control over the place where they engage in *Market Work* activities.

TIMING OF ACTIVITIES

One of the sources for the previous hypothesized relationship between self-employment and childcare is that an individual in self-employment is perceived as having greater control over the timing of work (flexible hours). An individual may therefore be able to work during school hours, or after the children have gone to bed. Alternatively, the self-employed individual may more easily work odd shifts or part-time, when a spouse or other family member is available to care for the children.

In this section, we analyze the timing of *Market Work*, *Child Care* and *Housework*, comparing employed and self-employed mothers. According to our hypothesis, if mothers choose self-employment as a way of improving the work-life balance, we should observe a greater flexibility in work hours, childcare and house work.

Graph 1 shows the timing of *Market Work* by self-employment status. We observe that there is an increase in the proportion of women working from 7 a.m. to 10 a.m., with the higher proportion of women working between 11 a.m. and 1 p.m. We stress that the fraction of people in *Market Work* is higher for employed women between 11 a.m. and 1 p.m. There is a decrease in the percentage of women at work from 1 p.m. to 3 p.m. However, we find differences from this point of the day onward. There is an increase in the proportion of people working from 3 p.m. to 6 p.m. for self-employed mothers, while this increase is smaller for employees. At 6 p.m., there is a significant difference between self-employed and employed mothers, of 20%. Given this difference in the proportion of women working during the evening, and that the percentage of mothers working in the morning is higher for employees, we can consider that self-employed mothers have greater control over the timing of work (flexible hours), which would also allow for greater flexibility over *Child Care* and *Housework*. For this reason, we analyze *Child Care* and *Housework*.

(Graph 1)

Graph 2 shows the timing of *Child Care*. We also find differences in the timing of *Child Care* for women. We observe that *Child Care* is more spread out over the day for self-employed mothers. The percentage of self-employed mothers who devote time to *Child Care* during the morning and afternoon (from 8 a.m. to 4 p.m.) is

higher than for employees, leading to the conclusion that *Child Care* is more evenly spread throughout the day. As a result, self-employed mothers have a greater flexibility in *Child Care* activities, given their greater flexibility in *Market Work* hours.

(Graph 2)

Finally, Graph 3 shows the timing of *Housework* for women. The results are similar to the previous results, in the sense that we find differences in the timing for women. Self-employed women do a greater proportion of *Housework* during the morning, evidence that they have greater flexibility in the timing of these activities.

(Graph 3)

Thus, we find differences between the timing of employed and self-employed mothers, with self-employed mothers having greater flexibility over *Market Work*, *Child Care* and *Housework* activities. This result is consistent with the hypothesis that mothers choose self-employment as a way of improving the work-life balance, since self-employment allows them to have greater flexibility in the way they allocate their time. Although self-employed mothers do not devote more time to *Child Care* activities, they do have greater flexibility in the timing of *Child Care*, allowing them to pay better attention to their children.

CONCLUSIONS

In this paper, we compare the distribution of market and non-market activities of employed and self-employed mothers, to determine whether self-employed mothers balance work and family more efficiently. To that end, we use the time diary data from the Spanish Time Use Survey 2002-2003 (STUS). Our results provide little support for the hypothesis that self-employed mothers spend more time caring for children than do other employed mothers, since we find that self-employed mothers devote less time to *Market Work* during a working day, and we find no statistically significant differences in the time devoted to *Child Care*, *Housework* and *Leisure.*

Since one commonly-held view of women's motives to choose self-employment is a desire for flexible hours, we analyze the timing of the activities in which people are engaged during a working day. We find differences between the

timing of employed and self-employed mothers, with self-employed mothers having a greater flexibility over *Market Work*, *Child Care* and *Housework*. These results are consistent with the hypothesis that mothers choose self-employment as a way to improve the work-life balance, since self-employment allows them to have greater flexibility in the way they allocate their time. Although self-employed mothers devote no more time to *Child Care* activities than do employed mothers, they do have greater flexibility in Child Care, allowing them to pay better attention to their children.

This is relevant since the non-availability of childcare services may force mothers to choose self-employment, in an attempt to improve the balance between their work and life responsibilities. However, women suffer high levels of stress in a normal day, what has been called a “double burden” or “second shift”, given that women continue to specialize in non-market work, despite increases in female labor participation rates. Public policies aimed at a more egalitarian distribution of non-market work would help women to reduce stress levels and to have more time to devote to other activities, such as leisure and personal care.

NOTES

[1] While in 1950, 20% of US mothers were employed, in 2005 that number was over 70%.

[2] Although these figures correspond to population aged between 20 and 74, differences are still great in the working-age population.

[3] Arun et al. (2004) examine the effect of career breaks on the working lives of women, using survey data from the state of Queensland in Australia. They find that, as women increasingly combine motherhood and employment, they face both penalties and costs, particularly if they have taken a career break in order to care for their children. As a result, self-employment can be seen as an alternative to a career break.

[4] Carrasco and Rodríguez (2000) explore the evolution of the care economy in Spain in the latter half of the twentieth century, analyzing the time use of family members, women's entrance into paid employment, and welfare state policies. They suggest that efforts to strengthen women's position in the labor market must go hand in hand with policies that encourage more equitable sharing of care responsibilities, since there is a large inequality in the distribution of non-market work by gender (Aliaga [2006]).

[5] Hildebrand and Williams [2006] use information on aggregate time spent on child care, which may bias the results.

[6] Other studies where timing is analyzed are Bonke et al. [2003] and Fisher et al. [2006].

[7] We also exclude low-quality diaries, defined as diaries that do not include some time recorded in at least 3 of 4 basic activities, as a primary or secondary activity (sleeping or resting, eating or drinking, personal care and travel).

[8] See Table 25 of Robinson and Godbey [2000]

[9] In the STUS, apart from the primary (main) activity, people who answer the time questionnaire must report information on the secondary (what else) activity, with whom was the person (alone, children under 10, other members of the household, other people) and the place where the person was doing the activity.

[10] See Table 1 for a full description of the demographic and family controls.

[11] The omitted day "dummy" variable is Monday.

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Table 1. Unconditional Means for the Dependent and Explanatory Variables [1, 2, 3]

	(1)		(2)		(3)	(4)
Variables	Employed		Self-employed		Difference Employed/Self-employed	p-value Difference
	Mean	S.E.	Mean	S.E.		
Market Work	318.5643	(246.209)	325.9181	(252.751)	7.3538	0.67
Child Care	69.1771	(86.816)	65.6272	(107.850)	-3.54985	0.57
Leisure	196.2225	(145.802)	202.0480	(161.170)	5.8255	0.57
Home Production	227.4226	(127.553)	217.2898	(140.089)	-10.1328	0.26
Child Care Basic	75.1622	(74.325)	72.0143	(83.207)	-3.1479	0.64
Child Care Quality	28.0026	(42.317)	32.7904	(70.359)	4.78787	0.25
Perc. Child Care Basic	0.7465	(0.323)	0.7617	(0.327)	0.0151961	0.60
Perc. Child Care Quality	0.2535	(0.323)	0.2383	(0.327)	-0.0151961	0.60
Child Care (Prim.) with Market Work (Sec.)	0.0589	(1.716)	0.0628	(1.032)	0.0038705	0.96
Market Work (Prim.) with Child Care (Sec.)	0.1526	(2.555)	0.0155	(0.394)	-0.1370714	0.19
Market Work with Chidren present	13.4431	(33.925)	10.7994	(28.103)	-2.64366	0.07
Perc. Child Care (Prim.) with Market Work (Sec.)	0.2757	(4.287)	0.2968	(3.181)	0.0211626	0.94
Perc. Market Work (Prim.) with Child Care (Sec.)	0.0669	(1.468)	0.0031	(0.070)	-0.0638195	0.34
Perc. Market Work with Chidren present	5.0881	(41.295)	3.0089	(16.289)	-2.079145	0.27

Notes: [1] Standard errors in brackets. [2] Sample consists of respondents in the STUS (2002-2003), who are not retired, are not students, are aged 19-65, working full-time and are parents of children under 18. [3] Time use variables are measured in minutes per day.

Table 2. Description of Demographic and Family Controls.

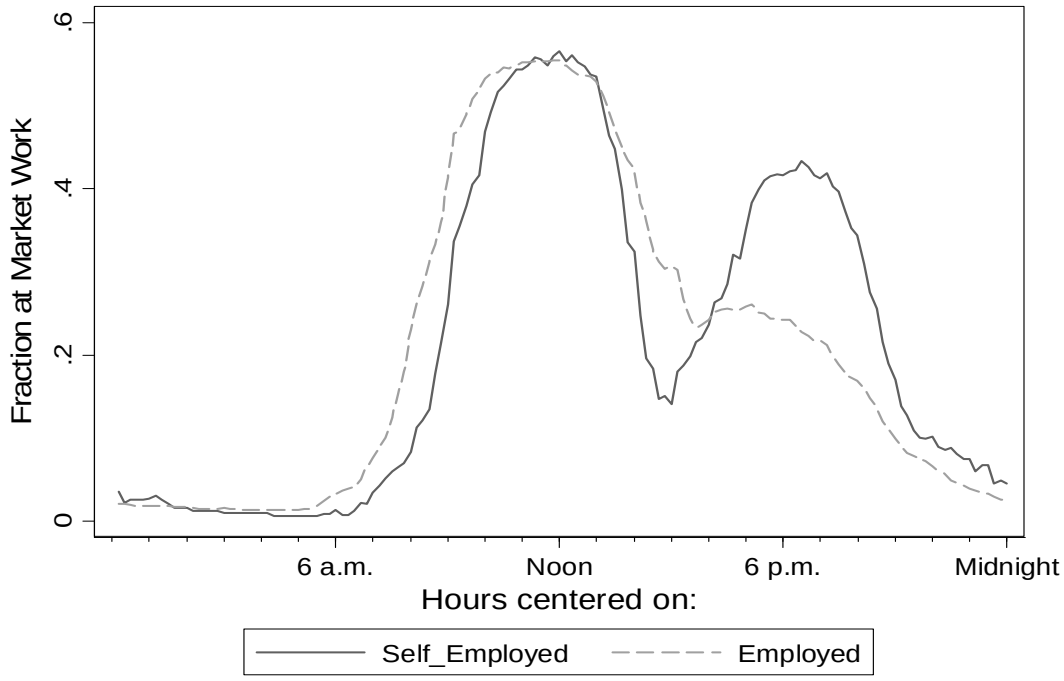
	Description	Type
Age	Age and Age Squared divided by 100.	Continuous
Number Members	Number of adult members in the household.	Continuous
Number children 0-4	Number of children between 0 and 4 years.	Continuous
Number children 5-12	Number of children between 5 and 12 years.	Continuous
Number children 13-17	Number of children between 13 and 17 years.	Continuous
Foreigner	The person is Spanish (1) or not (0)	Dummy
Health Status	Health status of person (1 = very good… 5 = very bad).	Scale
Marital Status	The person is married (1) or not (0).	Dummy
University Ed.	The person has university education (1) or not (0).	Dummy
Secondary Ed.	The person has secondary education (1) or not (0).	Dummy
Working part-time	The person works part-time (1) or full-time (0).	Dummy
Working self-employed	The person is self-employed (1) or employed (0).	Dummy
Imputed Wage Rate	Imputed wage-rate, obtained from the European Community Household Panel (2002).	Continuous

Tabla 3. Coefficients of the Regressions on Time Use and Additional Indicators in Working Days [1, 2]

Variables	(1) *Market Work*	(2) *Time devoted to Child care*	(3) *Home Production*	(4) *General leisure without childcare*	(5) *Basic Child Care done as primary activity*	(6) *Non-Basic Child Care done as primary activity*	(7) *Child Care combined with Market Work*	(8) *Market Work combined with Child Care*	(9) *Market Work done with Children under 10 present*	(10) *Percentage Child Care Basic*	(11) *Percentage Child Care Quality*	(12) *Perc. Child Care (Prim.) with Market Work (Sec.)*	(13) *Perc. Market Work (Prim.) with Child Care (Sec.)*	(14) *Perc. Market Work with Chidren present*
Age	-0.787	5.544***	4.006	-2.331	4.219**	1.325	0.014	0.062	1.525	0.007	0.002	-0.128	0.104	0.561*
	(6.39)	(1.96)	(4.76)	(3.74)	(1.66)	(1.12)	(0.02)	(0.07)	(0.95)	(0.02)	(0.01)	(0.15)	(0.08)	(0.33)
Age Squared	1.832	-8.062***	-3.300	2.436	-6.342***	-1.720	-0.006	-0.075	-2.008*	-0.023	-0.005	0.240	-0.108	-0.736*
	(8.24)	(2.39)	(6.35)	(4.81)	(2.00)	(1.39)	(0.03)	(0.08)	(1.12)	(0.02)	(0.02)	(0.23)	(0.08)	(0.39)
Number Members	-1.025	-7.797***	2.712	0.824	-3.433**	-4.364***	-0.065*	-0.058	-2.298**	-0.030*	-0.052***	-0.307	-0.017	-0.797***
	(6.94)	(1.91)	(5.59)	(4.50)	(1.44)	(1.15)	(0.03)	(0.04)	(0.90)	(0.02)	(0.01)	(0.21)	(0.03)	(0.26)
Foreigner	23.971	6.002	-12.912	-6.180	1.721	4.281	-0.016	0.038	3.699	-0.040	0.059	0.102	-0.199	2.747
	(26.17)	(10.61)	(17.12)	(15.23)	(9.27)	(6.76)	(0.05)	(0.33)	(6.30)	(0.07)	(0.05)	(0.29)	(0.22)	(3.02)
Health Status	-5.565	0.759	4.548	-3.682	0.531	0.228	0.047	0.057	0.535	0.006	0.008	0.105	-0.052	0.149
	(6.11)	(2.28)	(4.67)	(3.94)	(1.91)	(1.16)	(0.05)	(0.11)	(0.97)	(0.02)	(0.01)	(0.19)	(0.08)	(0.39)
Civic Status	9.279	10.521	-11.376	-3.916	3.287	7.234*	0.081*	-0.878	4.938	-0.006	0.047	0.117	-1.269	0.098
	(24.28)	(9.09)	(18.05)	(12.73)	(7.62)	(3.81)	(0.05)	(1.09)	(3.38)	(0.06)	(0.04)	(0.10)	(1.36)	(1.56)
University Ed.	13.774	8.465	-38.097***	-0.353	3.797	4.668	0.114	0.158	-0.141	0.098***	0.086***	0.048	0.166	-0.892
	(14.59)	(6.51)	(10.95)	(9.79)	(5.06)	(3.74)	(0.14)	(0.22)	(3.19)	(0.04)	(0.03)	(0.74)	(0.22)	(1.32)
Secondary Ed.	10.731	6.358	-11.583	-2.078	2.525	3.832	0.091	0.073	1.398	0.065**	0.045**	0.004	0.175	0.240
	(10.54)	(4.70)	(8.05)	(6.87)	(3.78)	(2.74)	(0.09)	(0.16)	(2.45)	(0.03)	(0.02)	(0.37)	(0.18)	(1.02)
Number children 0-4	-13.179	61.468***	-7.919	-21.149***	49.311***	12.157***	0.040	0.349	13.213***	0.256***	0.030	0.208	0.420	4.218***
	(9.81)	(4.48)	(7.85)	(6.55)	(3.64)	(2.47)	(0.03)	(0.23)	(2.23)	(0.03)	(0.02)	(0.20)	(0.29)	(0.69)
Number children 5-12	-20.664**	10.419***	19.363***	-1.728	2.559	7.860***	0.098	-0.002	5.005***	0.129***	0.104***	0.343	0.003	1.730***
	(8.26)	(3.12)	(6.73)	(5.65)	(2.41)	(1.85)	(0.07)	(0.06)	(1.60)	(0.02)	(0.02)	(0.32)	(0.03)	(0.62)
Number children 13-17	-11.061	-10.454***	19.796**	8.886	-9.060***	-1.393	0.007	0.047	-4.042***	-0.036	0.019	-0.053	0.025	-1.174**
	(10.23)	(3.18)	(8.19)	(7.34)	(2.27)	(1.93)	(0.05)	(0.08)	(1.33)	(0.03)	(0.02)	(0.13)	(0.03)	(0.46)
Working part-time	-118.793***	13.106**	53.827***	29.910***	8.398*	4.708	-0.039	0.475	3.860	0.040	0.046*	-0.140	0.513	2.651**
	(12.32)	(5.43)	(10.38)	(10.09)	(4.62)	(3.33)	(0.04)	(0.39)	(2.99)	(0.03)	(0.03)	(0.26)	(0.46)	(1.34)
Working self-employed	-39.775**	3.129	8.010	9.306	0.482	2.646	-0.066	0.421	3.378	0.021	0.006	-0.189	0.430	2.380
	(15.82)	(5.54)	(10.28)	(8.52)	(3.98)	(4.40)	(0.04)	(0.41)	(4.29)	(0.04)	(0.03)	(0.16)	(0.50)	(1.56)
Imputed Wage Rate	354.583***	-77.556**	-120.140**	-187.877***	-53.153*	-24.403	0.298	-0.379	-21.391	0.088	-0.145	0.122	0.598	-15.919**
	(72.80)	(35.91)	(57.33)	(50.12)	(28.54)	(18.64)	(0.61)	(0.90)	(16.11)	(0.20)	(0.16)	(3.11)	(0.83)	(7.04)
Constant	329.009**	-39.256	56.317	335.378***	-28.915	-10.340	-0.540	-0.559	-19.657	0.334	0.216	2.002	-1.560	-1.651
	(135.61)	(44.59)	(98.88)	(79.79)	(37.43)	(23.61)	(0.46)	(1.46)	(20.70)	(0.32)	(0.23)	(2.20)	(1.68)	(7.23)
Observations	1,447	1,447	1,447	1,447	1,447	1,447	1,447	1,447	1,447	1,447	1,447	959	1,447	1,447

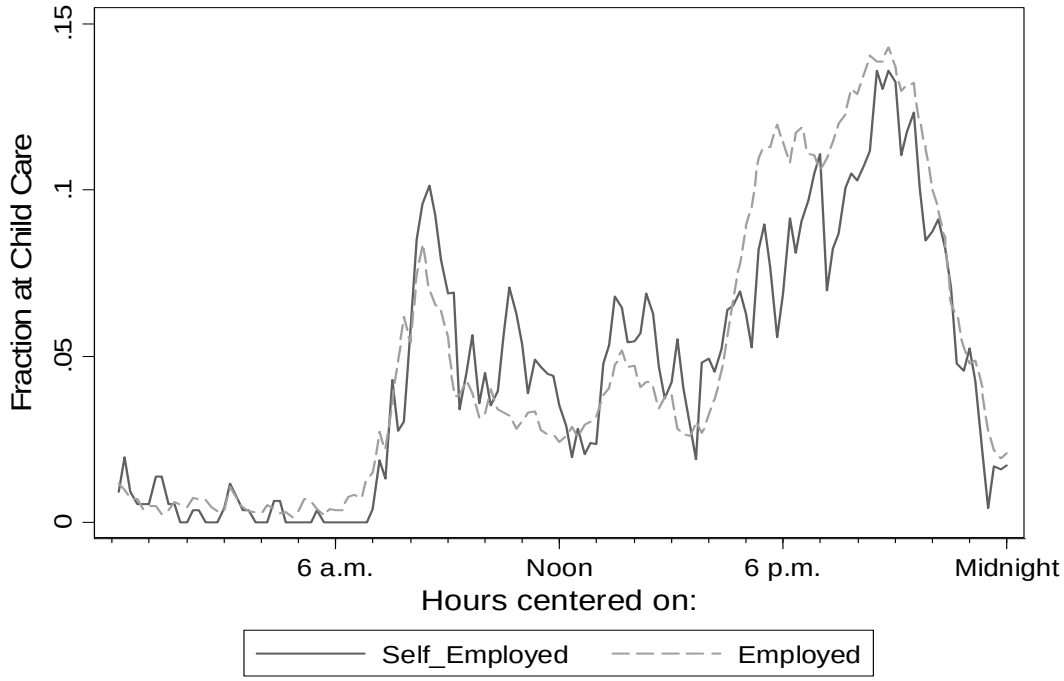
Notes: [1] Standard errors in parenthesis. [2] Sample consists of respondents in the STUS (2002-2003), who are not retired, are not students, are aged 19-65, are working full-time and are parents of children under 18.

Graph 1. Timing of Market Work [1, 2]



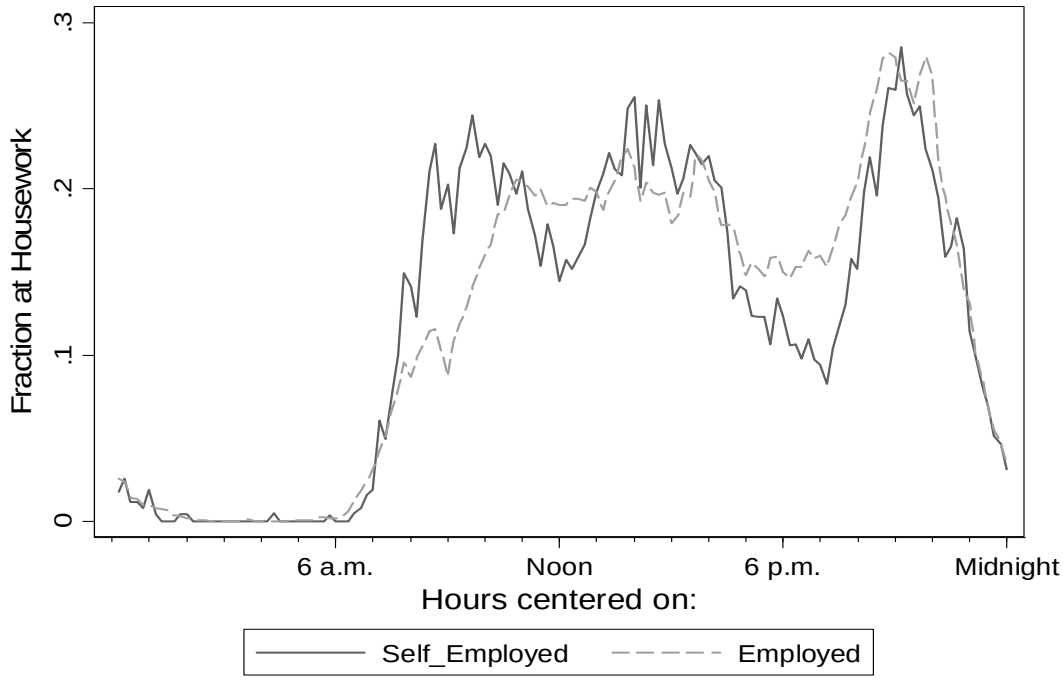
Notes: [1] Spanish Time Use Survey, 2002-2003 [2] The fraction at work is defined as the proportion of people doing market work at this point of the day.

Graph 2. Timing of Child Care [1, 2]



Notes: [1] Spanish Time Use Survey, 2002-2003 [2] The fraction of Child Care is defined as the proportion of people doing child care at this point of the day.

Graph 3. Timing of Housework [1, 2]



Notes: [1] Spanish Time Use Survey, 2002-2003 [2] The fraction of Housework is defined as the proportion of people doing housework at this point of the day.

APPENDIX (Not for Publication)

- **Imputed Wage Rate:** A higher wage means higher opportunity costs and, probably, a decrease in the time devoted to household activities and an increase in the time devoted to market work, since the value of time away from the home is higher. We obtain the *Imputed Wage Rate* using the 8th year of the European Community Household Panel for Spain (2002). The wage rate is in Spanish currency and the variables included to compute the Imputed Wage Rate are as follows: age, age squared divided by 100, gender (1 = men, 0 = women), number of children under 16 in the family, number of members in the family, foreigner (1 = yes, 0 = no), health status (very good=1,…, very bad= 6), civic status (single, married, separated, divorced, widowed), university education, secondary education, working full-time (1 = yes, 0 = no), working part-time (1 = yes, 0 = no), working in the public sector (1 = yes, 0 = no), unemployed (1 = yes, 0 = no). Table A2 in Appendix A2 shows estimation results for a similar subsample.

Table A1. Imputed Wage Rate [1, 2, 3]

Variables	Imputed Wage Rate	
	Coeff.	S.E.
Age	21.731***	(7.914)
Age Squared	-18.553***	(7.053)
Gender	324.816***	(53.032)
Number of Members	-63.816***	(24.319)
Number of Children <16	-44.505*	(25.466)
Foreigner	-443.6625	(284.317)
Health Status	-63.969**	(32.027)
Single	-257.735***	(96.022)
Married	-19.8213	(58.621)
Separated	217.8471	(203.241)
Divorced	234.3326	(340.694)
Working in the Public Sector	2209.632***	(140.605)
University Education	1379.523***	(122.393)
Secondary Education	364.770***	(72.174)
Unemployed	-99.56285	(80.551)
Working Full-time	2831.210***	(70.581)
Working Part-time	3649.324***	(246.819)
Constant	-201.5677	(260.018)
R-Squared	0.5177	
Nº Observations	11,896	

[1] Imputed Wage Rate comes from the Spanish sample of the ECHP for the year 2001 [2] Standard errors in parenthesis [3] ***Significant at the 1% level; **Significant at the 5% level; *Significant at the 10% level.