# Spouse care for children and other family members: the effects of family benefits

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#### Abstract

This paper first presents evidence from Spain on the relationship between the labour situation of both spouses within the family and the time dedicated to the care of the children, the elderly and the infirm. Second, it analyses the effect that government benefits for such care would have on the labour market and on household poverty. The results show that while Spanish society has advanced in the incorporation of women into the labour market, most of them still have to assume total responsibility for housework and the care of the children, the elderly and the infirm. Against this background, we find that benefits would decrease female participation in the labour market and the number of hours worked, while they would also contribute towards reducing poverty.

Keywords Labour market, family benefits, poverty.

#### Introduction

Households have to decide which of their members will work outside the home to earn the household income, how the housework is to be distributed among these members and, in many cases, who is to take care of the children, the elderly and the infirm members of the family (with the latter hereafter being referred to as 'children and other family members'). In the most traditional households, this specialization is complete; that is to say, the husband works outside the home and earns the household income, while the wife does the housework and takes care of the children and other family

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members. However, the increasing participation of women in the labour market has implied a growing proportion of non-traditional households, in which both spouses work inside and outside the home.<sup>1–18</sup> Thus, nowadays, most advanced countries contain traditional and non-traditional households. In the light of this, it could be interesting to analyse the household structure of such a society, that is to say, the proportion of households of one and the other type, with this analysis giving us a better idea of how it is organized.

In this context, the objectives of this paper are twofold. First, we study the extent to which the nontraditional household model has become established in Spain, and analyse the differences between this and the traditional household model as regards the care that is given to the children and other family members. Second, we try to determine the effects of benefits given to carers on the labour market and on the poverty level. To this end, we use the Spanish data drawn from the European Community Household Panel for 1994 to first estimate participation logit models, which will allow us to identify the characteristics that determine the time dedicated to caring for the children and the other family members. We then estimate a Heckman sample selection model to analyse the effects that benefits given to carers would have on the labour market. Finally, we estimate the opportunity cost of the time dedicated to taking care of the children and other family members, with the purpose of analysing the effect of different benefits provided by government for this activity on the labour market, the economic situation of the household and on welfare., The paper is organized as follows. In Section II, we present the characteristics that determine the decision to provide such care. The effects of benefits for carers on the labour market and on household poverty are dealt within Section III. Finally, Section IV closes the paper with a summary of the main conclusions.

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## Factors that determine the care given to children and other family members

The data set used in this paper is the Spanish wave of the European Community Household Panel for 1994. We have selected those households in which both spouses are of working age, with the resultant sample containing 4296 observations. For each household, we know whether one or both spouses work outside the home, the individual and household income, if either of the two spouses dedicates some time to taking care of the children or other family members, and, if so, how much, and finally, some personal and sociodemographic characteristics.

Table 1a contains the percentage distribution of the total sample of households and their relation with the labour market. Our sample reveals that about 80% of husbands work outside the home, that is to say, are wage earners or self-employed, while only 34% of wives do

**Table 1a** Percentage distribution of households by referenceto the spouses' relationship with the labour market

	Husbands							
Wives	Working	Unemployed	Housework	Inactive	Total			
Working	28.7	2.7	0.0	2.6	34.0			
Unemployed	7.6	1.7	0.0	0.4	9.6			
Housework	41.0	3.7	0.0	9.0	53.7			
Inactive	1.3	0.1	0.0	1.2	2.7			
Total	78.6	8.2	0.0	13.2	100.0			

**Table 1b** Percentage distribution of households that take

 care of the children and the other family members by reference to the spouses' relationship with the labour market

	Husbands							
Wives	Working	Unemployed	Housework	Inactive	Total			
Working	29.6	2.4	0.0	1.5	33.5			
Unemployed	8.2	2.0	0.0	0.6	10.8			
Housework	43.7	3.8	0.0	6.2	53.7			
Inactive	1.2	0.1	0.0	0.7	2.0			
Total	82.7	8.3	0.0	9.0	100.0			

so. Unemployment affects wives more than husbands, specifically 9.6% in the case of the former and 8.2% in that of the latter, with these figures being significantly lower than for the total Spanish population, which demonstrate rates of 31.5% for women and 20.1% for men. These differences are apparent because the highest unemployment rates in Spain correspond to young people, who have yet to establish a family. It also appears that no inactive husbands do any housework, whereas more than half of the wives dedicates time to this task. These data further show that in 41.0% of Spanish households, the husband works in the labour market and the wife is responsible for all the housework. In contrast, in 40.7% of households, both spouses wish to work in the labour market, although some of them are in fact unemployed. Finally, we can observe that there are few households in which it is the wife alone who works outside, with the husband remaining at home. These percentages reveal that Spain is now in an advanced stage of modernization as regards this aspect of its social structure, with the traditional households usually being made up of more elderly spouses and the non-traditional generally having younger members. These results are very similar to those presented in Table 1b, which now refers only to those households in which one or both of the spouses dedicate part of their time to taking care of the children or other family members. Therefore, we can conclude that the type of household is not influenced by whether or not the spouses take care of the children and other family members.

Table 2a shows how the spouses distribute the task of taking care of the children between them in the house-holds in which this task is made. Furthermore, for those households in which both spouses take care of the children, it also shows the percentage in which this task does not allow one or both of the spouses to enter the labour market. Here, we can first note that such care is distributed between both spouses in 42.4% of house-holds, with the wife alone being responsible for this task in 56.7%, and the husband alone in just 0.9%. When both spouses take care of the children, we can note that this activity does not allow 37.3% of wives and 5.2% of husbands to enter the labour market. Finally, we can appreciate that the responsibility for child care is supported to a much greater extent by wives, in that 89.5%

**Table 2a** Distribution, between spouses, of the care given to the children and if this task does not allow for participation in the labour market

Taking care of the children Husband			Whether care allows for participation in the labour market			No. of hours dedicated per day to taking care of the children						
			Husband	Husband			Husband					
Wife	Yes	No	Total	Wife	No	Yes	Total	Wife	<2	2–4	>4	Total
Yes	42.4	56.7	99.1	No	2.9	34.4	37.3	<2	1.0	0.4	0.3	1.7
No	0.9	0.0	0.9	Yes	2.4	59.5	62.2	2–4	3.0	3.8	1.6	8.5
Total	43.3	56.7	100.0	Total	5.2	94.4	100.0	>4 Total	25.4 29.5	36.1 40.4	28.1 30.0	89.5 100.0

**Table 2b** Distribution, between spouses, of the care given to the other family members and if this task does not allow for participation in the labour market

Taking care of other family members ————————————————————————————————————			Whether in the la	Whether care allows for participation in the labour market				No. of hours dedicated per day to taking care of the other family members				
			Husband	Husband			Husband					
Wife	Yes	No	Total	Wife	No	Yes	Total	Wife	<2	2–4	>4	Total
Yes	20.1	73.1	93.2	No	3.0	34.3	37.3	<2	7.1	3.6	0.9	11.6
No	6.8	0.0	6.8	Yes	3.0	57.2	62.0	2–4	8.9	11.6	2.7	23.2
Total	26.9	73.1	100.0	Total	6.0	92.2	100.0	>4 Total	22.3 38.4	17.0 32.1	25.0 28.6	65.2 100.0

of them dedicate more than 4 h per day to this task, whereas only 30% of husbands do likewise. In the case of households that care for other family members, Table 2b indicates that 93.2% of wives take care of such family members, but that only 26.9% of husbands do so. This care does not allow 37.3% of wives to enter the labour market, but prevents only 6% of husbands from doing the same. Finally, dedication to these tasks for more than 4h per day is more common for wives, in 65.2% of cases, than for husbands, in only 28.6% of cases.

Having determined the time dedicated to caring for the children and other family members, we will now concentrate on the factors which determine the decision on the amount of care that is to be given to them by both spouses. To that end, we will estimate two participation logit models. As we already know that wives dedicate more time to this activity than husbands, we analyse both participation decisions in a different form. Thus, in the case of husbands, we analyse which factors exert an influence over their decision to take care of the children and other family members, whereas in the case of wives, we analyse those factors which influence their decision to dedicate more than 4 h per day to this activity.

Tables 3a and 3b contain brief descriptive analyses of the relevant variables in the decisions taken by the husbands and wives to participate in the care given to the children and other family members. With respect to the personal variables, we can first observe that in both cases the highest percentages appear in the group of individuals older than 50 years, 35% for husbands and

## Table 3aMean and standard devia-<br/>tion of the personal variables for the<br/>total sample

	Hust	and	Wife		
Personal variables	Mean	SD	Mean	SD	
Age <30	0.07	0.26	0.12	0.33	
Age 30–35	0.15	0.36	0.17	0.38	
Age 36–40	0.15	0.36	0.16	0.36	
Age 41–45	0.15	0.35	0.15	0.35	
Age 46–50	0.13	0.33	0.13	0.34	
Age >50	0.35	0.48	0.27	0.44	
Primary education	0.68	0.47	0.74	0.44	
Secondary education	0.14	0.35	0.13	0.34	
University education	0.18	0.38	0.13	0.34	
Income = 0	0.04	0.19	0.56	0.50	
Income <500 000 pesetas per year	0.07	0.25	0.16	0.36	
Income 500 000-1 000 000 pesetas per year	0.18	0.38	0.10	0.31	
Income 1 000 000-2 000 000 pesetas per year	0.43	0.49	0.12	0.32	
Income 2000000-3000000 pesetas per year	0.18	0.39	0.05	0.23	
Income >3 000 000 pesetas per year	1.00	0.00	0.01	0.11	
Take care of children	0.24	0.42	0.54	0.50	
Take care of children <2 h	0.30	0.46	0.03	0.18	
Take care of children 2–4 h	0.40	0.49	0.10	0.31	
Take care of children >4 h	0.30	0.46	0.85	0.35	
Take care of other members	0.03	0.18	0.12	0.33	
Take care of other members <2 h	0.39	0.49	0.16	0.37	
Take care of other members 2-4 h	0.33	0.47	0.27	0.44	
Take care of other members >4 h	0.28	0.45	0.57	0.50	

27% for wives, whereas the lowest values are found in the youngest category, that is to say, those below 30 years of age, 7% and 12% respectively. As regards the education variable, the highest percentages appear in the same group, namely primary education, for both men, 68%, and for women, 74%. However, with respect to income, we find some differences, with the majority of husbands, 43%, appearing in the intermediate category, that is to say, with earnings of between 1000000 and 2000000 pesetas per year, whereas the highest percentage for wives is found in the null income group, 56%. The remaining variables correspond to the care given to the children and other family members, with the mean values indicating that only 24% of husbands take care of the children, a percentage that increases up to 54% in the case of wives. With respect to care for other family members, these values are lower; thus, we find a value of 3% for husbands and 12% for wives. As regards the household variables, we can first note that the mean household size is 3.98 individuals, that the mean unemployment rate of the housing regions is 23% and, finally, that the highest proportion of the household sample live in Andalusia, 14%, whereas the lowest appears in the Balearic Islands, Cantabria, Navarra and La Rioja, 3%.

The estimation results of the logit models appear in Table 4. With respect to the care of the children, we can note that the husband's decision is influenced by age, education level, labour activity, whether he takes care of other individuals, household size, the education level and labour activity of his wife and, finally, the geographical location of the household. We also find that if he is older, the probability of taking care of the children decreases. This indicates that the tasks are more equally distributed between both spouses in younger households than in older ones. The probability of taking care of the children is higher when the education level is primary or secondary than when it is of university

Table 3b	Mean and standard deviation of the household
variables	for the total sample

Household variables	Mean	SD
Household size	3.98	1.35
Unemployment rate of regions	0.23	0.06
Andalusia	0.14	0.35
Aragon	0.04	0.19
Asturias	0.04	0.19
Balearic Islands	0.03	0.17
Canary Islands	0.06	0.24
Cantabria	0.03	0.18
Castille-Leon	0.06	0.23
Castille-La Mancha	0.05	0.21
Catalonia	0.11	0.31
Valencia	0.08	0.27
Extremadura	0.04	0.19
Galicia	0.07	0.26
Madrid	0.10	0.30
Murcia	0.04	0.20
Navarra	0.03	0.18
The Basque Country	0.05	0.22
La Rioja	0.03	0.16

diploma or degree level, and is also higher when the husband is unemployed or inactive than when he is working. If the husband takes care of other individuals, then the probability of also taking care of the children is lower and decreases with household size. Finally, the probability of taking care of the children increases when the wife works, and is lower if the family resides in the Balearic Islands, Castille-Leon, Catalonia or Navarra than if it does so in any of the other Autonomous Regions into which Spain is divided. With respect to the husband's decision to take care of other family members, we find that the number of significant variables is lower. Specifically, it depends on his education level, whether or not he takes care of the children and the housing region. The probability is lower if the husband takes care of the children and if his education is of university diploma or degree level, whereas it is higher if he lives in Asturias, Galicia, Madrid or Murcia.

As regards the wife's decision to dedicate more or less than 4h per day to taking care of the children and other family members, our analysis has produced the following results. With respect to the care given to the children, the relevant variables are age, labour activity, household size, the education level and labour activity of the husband and, finally, the housing region. This probability of taking care of the children decreases with age, if the husband is inactive and if he has a university diploma or degree. In contrast, it increases with household size and when the wife does not work, being higher when she is inactive than when she is unemployed. With respect to the care given to other family members, the probability of this increases when the wife is inactive, and is higher when she does not do the housework. Moreover, the probability is higher when her husband is inactive and increases with household size.

These results are in agreement with those presented in an earlier paper dedicated to the Spanish economy, in which the household labour supply was estimated and the same data set used.<sup>19</sup> In that paper, it was found that household size has a positive influence on male labour supply and a negative one on the corresponding female labour supply. Similarly, it was noted that wives dedicate a lower number of hours to working in the labour market to be able to dedicate more time to taking care of the children, whereas husbands worked more time in the labour market, thereby obtaining the necessary income to maintain a larger-sized household.

#### Effect of benefits for taking care of the children and other family members on the labour market and on household poverty

To determine the effects of government benefits for carers on the labour market and on household poverty, we first estimate a selection model for the wives.<sup>20</sup> This estimation has two stages: in the first, we estimate a participation probit model in the labour market, whereas in the second, we estimate the number of hours worked.

Table 5 contains the results of both stages of the Heckman model as they correspond to the wives. The probit model indicates that the decision of whether or not to work depends on her age, if she and her husband take care of the children or other family members, her education level, the household income and the unemployment rate in the region in which she lives. Wives whose ages fall between 30 and 45 years, above all between 30 and 40, have more probability of working, whereas those older than 50 have the lowest probability. The variables that indicate the care given to the

**Table 4** Logit models of time dedicated to taking care of the children orother family members

	Taking care o	f the children	Taking care of other family members		
	Husband	Wife	Husband	Wife	
Constant	3.3147	2.1838**	-0.8179	-2.1044**	
Personal variables					
Age <30†					
Age 30–35	-0.3345	-0.3439	-0.2258	0.1088	
Age 36–40	-0.5412**	-0.9290**	-0.4752	0.3407	
Age 41–45	-0.9790**	-1.3221**	0.4212	-0.1990	
Age 46–50	-1.7251**	-1.9753**	0.0831	-0.3405	
Age >50	-1.7633**	-2.1489**	0.4623	0.3585	
Primary education <sup>†</sup>					
Secondary education	-0.0785**	0.0657	-0.8559	0.4863	
Higher education	-0.6937**	0.3053	-0.7477*	0.3702	
Working†					
Unemployed	0.9487**	1.2486**	0.5395	0.5496	
Housework	-	1.5031**	6.3050	1.0299**	
Inactive	0.9347**	1.9182**	0.1092	2.1057*	
Taking care of the children	-1.3059**	-0.0155	-1.6433**	0.2283	
Household size	-0.1430**	0.1743**	0.0421	0.1646*	
Spouso variables					
Brimony advectiont					
	0 5040**	0 2022	0 5727	0 1 2 0 9	
Higher education	-0.5242	-0.3622	0.0737	-0.1390	
Markingt	-0.5406	-0.4360	0.0077	0.1027	
VVOIKIIIg	0 5 4 7 0 **	0.0010	0.0007	0.0610	
Unemployed	-0.5470	-0.0812	-0.3007	-0.3619	
Inactive	-0.5602	-	-0.2735	-	
macuve	-0.1290	-0.0120	0.7436	0.0099	
Regions					
Andalusia†					
Aragon	0.2970	-0.7062	0.6991	-0.6684	
Asturias	-0.0183	-1.3708**	1.2094*	-0.6332	
Balearic Islands	0.6738*	-0.6700	1.2906	0.1082	
Canary Islands	-0.0414	-0.2586	-0.4129	-0.2203	
Cantabria	0.4199	-0.8700*	0.5536	1.0468	
Castille-Leon	0.4962*	-0.6462	0.9582	0.6962	
Castille-La Mancha	-0.1832	-1.1719**	0.2471	-0.8841*	
Catalonia	0.7207**	-0.6673*	0.8521	-0.4039	
Valencia	0.3530	-0.4605	0.7941	0.3256	
Extremadura	0.2144	-0.3898	-0.6128	0.7676	
Galicia	-0.2378	-1.1738**	1.2800**	0.8245	
Madrid	-0.1073	-0.6798*	1.4067**	0.4196	
Murcia	0.0825	-0.1682	1.1642*	1.0633	
Navarra	0.6758*	-1.2037**	0.2170	0.8608	
The Basque Country	0.2622	-1.2774**	0.7094	-0.7949	
La Rioja	0.1682	-1.3407**	1.1269	-1.4515	
Number of observations	2250	2207	537	100	
Log likelihood	2230	1708 44	626 44	681 60	
Log intellitoou	5074.05	1730.44	020.44	001.02	

 $\dagger$  = Reference category; \* = significant at 95%; \*\* = significant at 99%.

	Wives			
	Participation probit	Hours worked per week		
	(1 = works, 0 = does not work)			
Constant	0.24519	56.000**		
Personal variables				
Age <30†				
Age 30–35	0.24634**	-3.8271*		
Age 36–40	0.35156**	-4.8265**		
Age 41–45	0.29908**	-4.5461*		
Age 46–50	-0.53334E-01	-1.8447		
Age >50	-0.42602**	2.3396		
Do not take care of childrent				
Take care of children <2 h	0.11082	0.44196		
Take care of children 2–4 h	0.38993**	-0.31780		
Take care of children >4 h	-0.64014**	0.84990E-01		
Do not take care of other members†				
Take care of other members <2 h	0.20407	-2.7243		
Take care of other members 2-4 h	0.16182E-01	0.45489		
Take care of other members >4 h	-0.31809**	0.36235		
Primary education <sup>†</sup>				
Secondary education	0.46734**	-3.6787		
University education	1 0308**	-8 0403*		
Household size	-0.29492E-01	0.88722*		
Spouse variables				
Do not take care of childrent				
Take care of children <2 h	0.25443**	-1.3868		
Take care of children 2–4 h	0.37980**	-0.68403		
Take care of children >4 h	0.64768**	-2.2347		
Do not take care of other family memberst				
Take care of other members <2 h	0.43954*	-3.0451		
Take care of other members 2-4 h	0.26248	1.5976		
Take care of other members >4 h	0.49393E-01	-0.55169		
Income = 0†				
Income <500 000 pesetas per vear	-0.10889	-5.2616*		
Income 500 000-1 000 000 pesetas per vear	-0.32335**	-5.6617*		
Income 1 000 000–2 000 000 pesetas per vear	-0.42853**	-6.5585**		
Income 2 000 000-3 000 000 pesetas per vear	-0.42376**	-6.0994**		
Income >3 000 000 pesetas per year	-0.38192**	-6.5420**		
Unemployment rate of regions	-1.8673**	-		
$\lambda$ Heckman	_	-8.1482		
No. of observations	4296	1240		
Log likelihood	-2171.62	-490.57		

### **Table 5** Heckman sample selectionmodel of hours worked by wives

 $\dagger$  = Reference category; \* = significant at 95%; \*\* = significant at 99%.

children show that the probability of working is higher when the wives dedicate 2-4h per day to this activity, whereas they are lower when they dedicate more than 4h, as well as when the husbands dedicate more time to this activity. With respect to the care given to other family members, the probability of the wives working is lower if they dedicate more than 4h to this activity, and higher when the husbands dedicate less than 2h to it. The education variable indicates that the probability of working increases with the level of studies, and decreases as income increases. Finally, a higher unemployment rate discourages wives from working. As regards the estimation of the number of hours worked, we can observe that the relevant variables are age, education level, household income and household size. The lowest number of hours corresponds to wives aged between 36 and 40, with a university diploma or degree level education and in a household with a higher income; in contrast, household size has a positive effect on the decision on how many hours to work.

Next, we estimate the opportunity cost of the time dedicated by the household to taking care of the children and other family members. To that end, we estimate the wage equation for both spouses, applying the Heckman method. We then calculate the mean of the predicted wage for those spouses who dedicate time to taking care of the children and other family members, and calculate the wage per hour of this activity.

Table 6 shows the result of the Heckman sample selection model for the wage, with these parameters being used to calculate the opportunity cost. First, we can observe that for both husbands and wives, the Heckman  $\lambda$  variable is significant in the two estimations, indicating that the sample selection bias has been corrected. That is to say, we have not committed an error in the estimation by considering only the workers, in that all individuals have been considered. In the part corresponding to the husband's estimation, we can see that there are a number of variables that exert a influence on the probability of his participation in the labour market, namely age, care being given to the children and other family members, education level, household income and the unemployment rate of the region in which the household lives. The probability of participation increases for the middle-aged, i.e. those between 30 and 40, as well as when the husband does not take care

of the children or other family members, has a university diploma or degree and, finally, if the household lives in a region with a low rate of unemployment. With respect to the wage, the variables that increase this are the level of education and the unemployment rate, whereas age reduces it. These results illustrate the returns on education, above all of having a university degree. They also indicate that in the regions with a high rate of unemployment, the probability of working is lower, but that when these husbands do work, then the wage is higher. Therefore, the negative effect that we could expect from the surplus of labour supply does not appear. From these results, we can derive the mean of valuation, in opportunity-cost terms, of each hour dedicated to taking care of the children or other family members, with this figure being 854 pesetas. This opportunity-cost is the amount of money that each of the spouses could earn if they dedicated this care hour to work outside the home and therefore is calculated from the estimated coefficient of the wage equation as the potential market wage corresponding to the individual in the labour market.

The results corresponding to wives indicate that, in the decision to participate in the labour market, the significant variables are age, caring for the children, education level, household income and the rate of unemployment. In contrast, caring for other family members does not appear to exert an influence in this decision, whereas the effect of income is different when compared with the decision taken by the husbands. Moreover, in the wage estimation, the relevant variables are the possession of a university diploma or degree and the unemployment rate, with both variables having a positive effect on this wage. Such a finding is related with another well known result, namely that female education returns appear in the higher, but not in the secondary, education level, whereas both types of education increase the wage for husbands. Similarly, we can obtain the mean of valuation of each hour that wives dedicate to taking care of the children or other family members, deriving a specific value of 787 pesetas.

Finally, we study the effects of different benefits on the level of household poverty, calculating the percentage of households that are classified as poor. To this end, we follow the usual definition of that term, before and Table 6 Heckman sample selection model of male and female wage

	Male	1	Female		
	Participation probit (1 = works, 0 = does not work)	Wage by hour in logarithms	Participation probit (1 = works, 0 = does not work)	Wage by hour in logarithms	
Constant	1.2042**	5.1156**	0.8962**	6.2077**	
Personal variables					
Age <30†					
Age 30–35	0.3625**	-0.8297**	0.3272**	-0.4582	
Age 36–40	0.3511**	-0.9643**	0.4024**	-0.4836	
Age 41–45	0.1976	-1.0340**	0.3160**	-0.4458	
Age 46–50	0.0866	-1.0566**	0.1361	-0.3597	
Age >50	-0.7598**	0.5210	-0.1508	-0.1091	
Do not take care of children†					
Take care of children	-0.3714**		-0.2175**		
Do not take care of other members†					
Take care of other members	-0.3069**		-0.0497		
Primary education†					
Secondary education	0.0941	0.4200*	0.1822*	0.3445	
University education	0.2244**	0.7916**	0.4983**	0.6282*	
Spouse variables					
Income = 0†					
Income <500 000 pesetas per year	-0.0131		-1.3626**		
Income 500 000-1 000 000 pesetas per year	-0.2431**		-0.5496**		
Income 1 000 000-2 000 000 pesetas per year	0.7840**		0.0448		
Income 2000000-3000000 pesetas per year	0.4365**		0.0130		
Income >3 000 000 pesetas per year	0.3747**		0.0610		
Unemployment rate of regions	-2.8690**	7.0110**	-1.8304**	3.8342**	
$\lambda$ Heckman		-4.8507**		-3.2230**	
Number of observations	4296	3233	4296	1240	
Log likelihood	-1871.72	-7915.43	-1667.87	-2812.03	

† = Reference category; \* = significant at 95%; \*\* = significant at 99%.

after the establishment of these benefits by government. In this respect, the usual measure of poverty considers a household as poor if it has a per capita equivalent income, which is lower than half of the mean per capita equivalent income. To calculate the per capita equivalent income, we adopt the OECD or Oxford scale, which gives the following weightings to each household: 1 for the first adult, 0.7 for each additional member of 14 years and older and 0.5 for each additional member younger than 14 years.

Table 7 shows the percentage of poor households in

the sample, simulated from the estimated parameters presented in Table 6. Here, we consider both the total sample and the different types of family, each with respect to different levels of benefits. With respect to the type of family, we consider: (i) traditional households, in which only the husband is active and only the wife takes care of the children or other family members; (ii) intermediate households, in which both spouses are active and only the wife takes care of the children and other family members; (iii) intermediate households, in which only the husband is active and both spouses take care

		Type 1	Type 2	Туре 3	Type 4
	Total	(Traditional)	(Intermediate I)	(Intermediate II)	(Modern)
% Poor	19.2	24.8	20.5	15.9	9.6
% Poor with type (i) benefits (50000)	17.7	8.9	23.5	18.5	10.3
% Poor with type (ii) benefits (30 000)	18.1	13.17	22.3	16.9	9.9
% Poor with type (iii) benefits (25000)	18.3	15.5	22.3	16.9	9.9

 Table 7 Poverty by types of household, and poverty with different benefits for taking care of the children and other family members

of the children and other family members; and finally (iv) modern households, in which both spouses are active and both take care of the children and other family members. As regards the types of benefit, we assume that these affect household income in two ways, namely by directly increasing this income and also by influencing the labour participation decisions of both spouses. The different benefits are: (i) 50000 pesetas per month to wives who do not work and who take care of the children or other family members for more than 4h per week; (ii) 30000 pesetas per month to the same wives in the same situation and finally; (iii) 25000 pesetas per month to the same wives in the same situation.

The results show that 19.2% of the households can be classified as poor. If we distinguish between the different types of household, we can note that the percentage of poverty is above the average in type 1 and 2 families, whereas it is below it in type 3 and 4. State benefits only decrease poverty in type 1 households because poverty is defined in relative terms with respect to the mean income of the total sample. The number of poor households decreases with all types of benefits. However, the effect on each type of household is different according to the amount. Thus, the first benefit, 50000 pesetas per month, has the effect of decreasing the number of poor type 1 households, whereas it increases the number of poor households of the other three types. The remaining benefits, which involve successively lower sums of money, have a more limited effect on poverty. Finally, if the objective is for the impact on poverty to be equal for all types of household, then the benefit should be as in (iii) above, which implies a level of poverty for type 1 households similar to that for type 3. Both types of household would have lower levels of poverty than type 2 households, whereas type 4 households would be at the lowest poverty level.

#### Summary and conclusions

In this paper, we have studied the factors that determine the decision of Spanish households to take care of the children and other family members, as well as the effects of benefits given for such an activity on the labour market and on household poverty. To that end, we have used the household information from the Spanish wave of the European Community Household Panel corresponding to 1994, and have estimated logit models of participation, as well as sample selection Heckman models.

The results show that modern-day Spanish society has an advanced level of female incorporation in the labour market. However, a very significant number of Spanish women continue to have responsibility for the housework, which includes taking care of the children and other family members. This situation has the effect of creating an inequality in the way that the total work is divided between both spouses.

As regards the benefits given to households for taking caring of the children or other family members, we have found that these have a negative effect on female participation in the labour market and on the decision about the number of hours to be worked. Finally, we have observed that the application of different types of benefits leads to a decrease in the level of household poverty, and that the incidence on each type of household is different according to the level of benefit.

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#### References

- Lehrer, E. & Nerlove, M. (1986) Female labor force behavior and fertility in the United States. *Annals Review Sociology*, **12**, 181–204.
- Sixma, H., Ultee, W.C., Dessens, J. & Jansen, W. (1988) Why does unemployment come in couples? *European Sociological Review*, 4, 111–122.
- Shelton, B.A. (1990) The distribution of household tasks: does wife's employment status make a difference? *Journal of Family Issues*, 11, 115–135.
- Bergen, E. (1991) The economics context of labor allocation: implications for gender stratification. *Journal of Family Issues*, **12**, 140–157.
- Blair, S.L. & Licheter, D.T. (1991) Measuring the division of household labor: gender segregation of household among American couples. *Journal of Family Issues*, 12, 91–113.
- Ferree, M.M. (1991) The gender division of labor in twoearner marriages: dimensions of variability and change. *Journal of Family Issues*, **12**, 158–180.
- Browning, M. (1992) Children and household economic behaviour. *Journal of Economic Literature*, **30**, 1434–1475.

- Ishii-Kuntz, M. & Coltrane, S. (1992) Predicting the sharing of household labor: are parenting and housework distinct? *Sociological Perspective*, **35**, 629–647.
- Nakamura, A. & Nakamura, M. (1992) The econometrics of female labor supply and children. *Econometric Reviews*, **11**, 1–71.
- Almida, D.M., Maggs, J.L. & Galambos, N.L. (1993) Wives' employment hours and spousal participation in family work. *Journal of Family Psychology*, 7, 233–244.
- 11. Beller, A.H. (1993) The division of labor by gender. *Rationality and Society*, **5**, 398–407.
- Deutsch, F.M., Lussier, J.B. & Servis, L.J. (1993) Husbands at home: predictions of paternal participation in childcare and housework. *Journal of Personality and Social Psychology*, 65, 1154–1166.
- Henkens, K., Kraaykamp, G. & Siegers, J. (1993) Married couples and their labour market status. *European Sociological Review*, 9, 67–78.
- Hossain, Z. & Roopnarine, J.L. (1993) Division of household labor and child care in dual-earner African -American families with infants. *Sex Roles*, 29, 571–583.
- 15. Major, B. (1993) Gender, entitlement and the distribution of family labor. *Journal of Social Issues*, **49**, 141–159.
- Haddad, T. (1994) Men's contribution to family work: a re-examination of 'time-availability'. *International Journal of Sociology of the Family*, 24, 87–111.
- Hersch, J. & Stratton, L.S. (1994) Housework, wages and the division of housework time for employed spouses. *American Economic Review*, 84, 120–125.
- Chafetz, J.S. & Hagan, J.H. (1996) The gender division of labor and family change in industrial societies: a theoretical accounting. *Journal of Comparative Family Studies*, 27, 187–216.
- García, I. & Molina, J.A. (1998) Household labour supply with rationing in Spain. *Applied Economics*, 30, 1557–1570.
- Heckman, J.J. (1979) Sample selection bias as a specification error. *Econometrica*, 47, 153–161.