

The women's conciliation of adult care and employment in different welfare regimes

Draft version

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-I- Introduction

Family policies and social care programmes have gained relevance in the European Union member states social policies since the eighties onwards (Gornick, 2001). Simultaneously, a considerable amount of research on this field has been made mainly focused on the relationships between child care, women's employment and fertility. However, the conditions and effects of elderly care have not call so much attention and, even less the social care for those adults not old but so frail as unable to be autonomous. Furthermore, just as increasing levels of employment among married women and changing family structure have pushed elder care onto the political agenda (OECD, 1998, 1999), the reverse approach, looking at the impact of services for the elderly on women's employment rates, has not been an important subject of analysis (Daly and Lewis, 1998). Research on the relationships between adult care and care-givers' labour supply has progressed in the last decades but, has not produced any consensus on issues such as the trade-offs between care giving and work, especially for women. Sociological research tends to emphasise power resources and institutions, -cultural values and welfare regimes- in explanation of the choices made by women and households, while economists tend to favour the rational choice.

Using micro data from the European Household Panel (ECHP) and comparing different welfare regimes, this paper tries to estimate first of all, whether a trade-off exists between the time allocated by midlife women to adult care and the time allocated to labour market. Second, if the existence of such a trade-off is affected by welfare institutions and, consequently if welfare regimes theory is a useful tool for better understanding women allocation of time.

This paper focuses on care-giving to any kind of adult person and not exclusively to the elderly. The ageing process of the richest societies has drawn attention to the increasing needs of frail elderly and their relatives as well as to the necessity to think the most efficient ways of attending them. However, to cope with the needs of frail elderly means to implement new policies to cope with the needs of disabled people in general. What ageing has made is to uncover the needs that have been affecting many households where one of its adult members, -because of accident, mental or physical illness, drugs addiction or whatever other reason-, is unable to cope with everyday life without the permanent assistance from other persons. These helper persons are mostly midlife women¹ who, sometimes, are still caring for children.

The cornerstone of this research is the analysis of how midlife women allocate time to adult care and paid work. The ECHP data offer information about the number of weekly hours that the subject devotes to look after any adult person at the moment the survey was made. The data do not differentiate to whom the care is provided, although they do reveal whether the person who receives help resides in the same household as the caregiver.

¹ Although midlife women are the bulk of caregivers, it is noteworthy that many young women caring for children are also the primary helpers for adults. Even a minority of them is composed of teenagers who must subtract caring time from their education or working time (Sarasa, 2003).

United Kingdom, Sweden and Germany are frequently chosen as the best paradigms of the welfare regimes typology among the European states. However, some difficulties with ECHP data do not allow such a comparison. The United Kingdom data include such a high level of out of home caring hours that one suspects volunteering activities are included. Mistakes prevention in the meaning of data related with adult care have made recommendable to exclude United Kingdom from this comparison, leaving aside the best representative of liberal regimes in Europe. Germany and Sweden also have been excluded since the number of care hours is not provided in every panel wave. Therefore comparison has been limited to two social-democratic (Denmark and Finland) and two conservative regimes (Austria and France), plus one familistic regime from Southern Europe and the Netherlands, whose regime combines aspects of the social-democratic and the conservative regimes.

-II-

Theoretical Background and Hypotheses

Women's Decisions of Care-giving

Most literature on informal adult care giving and women's labour supply focuses on elderly parents but, as far as I know, care of other kind of disabled people is not considered. The time allocation model initially developed by Becker (1965) to explain household production of goods is a good approach to complement the elderly care literature. Household composition, individual characteristics and contextual factors are determinants of the balance reached by women between care and paid work times.

Household composition affects the use of time since both competing demands of care and resources for caring are determined by the number and quality of household members. Household elder members, like children, may consume care time but the elderly are not always care time consumers. The addition of an elder member to the household, if healthy, becomes a helpful resource for household production of childcare, meal preparation and other household chores (Kolodinsky et al. 2000).

However, sharing the household with other relatives out of the spouses and children competes with the desire of intimacy, the available room in the house and, sometimes, with their incompatibility. Against these inconveniences, altruistic behaviour can arise when the health status of a relative or close friend needs care and he/she lacks enough resources, - as income to purchase formal services, titles to subsidised services or, other relatives to whom ask for help. Under such a circumstance, the co-residence of the frail and the helpers can be the best option although, when the need of care is small, the help can be provided without co-residing, if geographical distance allows it (Stern, 1995).

From a power resources perspective, altruistic relationships between relatives are difficult to disentangle from interested strategies. The role played by bequests in the intergenerational solidarity is a good example (Pezzin et al. 1998) but, not the only one. The differentials in wealth, wages and other incomes between household members shape altruistic behaviours at home. Hence, altruistic behaviour is conditioned by social stratification. In Germany, conditional solidarity decreases significantly with socio-economic status measured through education and occupational prestige, although unconditional solidarity is moderately more frequent among households in the highest

quintiles of equivalence income (Kohli et al 2001)². In Sweden, Lennartson et al (2005) find the hugest disparity in support giving between children with differing socioeconomic statuses. Self-employed, professionals and skilled workers are more than twice as likely as unskilled and manual workers to receive financial support from their parents. There is also a strong association between financial support received from parents and the frequency of social contacts between them and their children but, this covariate happens among non-manual workers alone. Manual workers would be more prone to unconditional solidarity.

Women's Labour Supply and Adult Care

The time allocation model suggests that care-giving and employment compete for the caregiver's time resources. The trade-off depends on the relative marginal utility of paid work and care giving which, in turn, depends on relative wages. The higher the caregiver's earnings potential, the higher the opportunity cost of care-giving. Earnings potential and actual wages depend on market demand, usually measured by the unemployment rates, and on individual attributes such as age, educational credentials, sex and the skills acquired through work experience. The earnings potential losses are not very large for mid-life women since the capacity for generating increasing earnings generally diminishes after the age of 50 but, abandoning the labour market, or reducing the participation, have negative effects on the women's future pension rights.

On the care-giving side, the marginal value depends on the accessibility to care services provided by third parties (market, state or relatives) and on the intensity of caring needed by the care-recipient. At the same time, studies of caregivers' stress point out a decrease in their marginal utility of care at high levels of assistance provision.

Bivariate analyses commonly show a negative association between female labour supply and adult caring time. As can be observed in table 1, midlife women caring for adults have less involvement in the labour market than not caring women³. However, multivariate analyses show inconclusive results depending on how the samples are constructed and on the estimating techniques. Using data from the US, Pezzin and Steinberg (1999) find only modest trade-offs between female labour supply and parental care-giving. Stern (1998) concludes that the negative association between work status and care-giving time is no longer significant after controlling for endogeneity. Wolf and Soldo (1994) analysing a sample of married women, have found no evidence of reduced propensity to be employed, or of reduced hours of work, due to the provision of care to an elderly parent. Wang (2004) has estimated a time allocation model providing estimates of the prices informal caregivers put on the time in doing certain activities; its results led the author to assert that midlife women treat parent care differently than labour market work. Time spent on parental care does not affect labour supply because

² The authors identify three types of solidarity values in Germany: unconditional, conditional (time in exchange of bequests, transfers, etc) and a minority of people who defend autonomy and separation between generations.

³ Given the difficulty in defining what is a part-time contract at international level (Blossfeld & Hakim, 1997), I have opted by the Hakim's (*op.cit*) recommendation of considering *marginal work* when women work less than 15 hours per week, (a situation that frequently does give no right to Social Security protection or even is considered as inactivity by official statistics) *half time* when women work between 15 and 29 hours per week.

women consider care-giving as leisure time. Other researches find opposite results, however. Using also US data, Ettner (1995, 1996) concludes that work hours are significantly reduced by care-giving. Kolodinsky & Shirey (2000) find that living with a disabled elder parent decrease women's labour supply and, the results of Johnson & Lo Saso (2000) indicate that only poor health reduces hours of work more than assistance to parents. As far as I know little research on this issue has been made using European data but, Spiess & Schneider (2002) working with the European Household Panel data, have found that starting or increasing care-giving decrease the weekly work hours of midlife women.

Table 1		
Midlife Women's Labour Status by Adult Caring Status		
Women aged 35 to 59		
<i>Labour Status</i>	<i>Adult Caring Status</i>	
	Not Caring	Caring
Not employed	39.3	53.2
Marginal	5.2	6.1
Half-time	12.2	9.4
Reduced-time	25.7	15.9
Full time	17.6	15.4
Total	100.0	100.0
Pearson chi2(4) = 700.62 Pr = 0.000		
Source: ECHP 1994-2001 for Denmark, Finland, Netherlands, Austria, France and Spain.		
See footnote #2 for labour status categories.		

Adult Care and Welfare Regimes

Decisions about who cares and the intensity of caring are linked to how the division of household labour is negotiated by household members, each one with their own power resources and all of them assumed to bargain in favour of the household's common interest. However, macro-level differences in the division of household labour can not be explained by differences in individual characteristics suggesting that the division of labour at home is shaped by contextual factors. The institutional factors related with welfare regimes affect the domestic division of labour through specific models of gender relations, shared ideologies and opportunity structures. Geist (2005) found that conservative welfare regimes, compared to the liberal and social-democratic regimes, inhibit the equal sharing of housework between spouses.

Opportunity structures are delimited by the combination of affordable substitutive services and employment opportunities. The amount and quality of women's employment is higher in social-democratic welfare regimes than in conservative regimes, being the lowest in the *familistic* Southern Europe (Esping-Andersen, 1990,

1999). These differences are well represented in the ECHP sample. Among the women aged between 35 and 60, more than 80 per cent are employed in Denmark and Finland; less than 50 per cent in Spain and, around 60 per cent in Austria, France and Netherlands.

Women's time allocation is affected by the provision of welfare benefits for dependent persons; hence, the eligibility criteria and the nature of benefits, -in cash or in kind-, are crucial. In regimes where the provision is scarce and means tested, most of the dependent people obtain the help they need from relatives and only an affluent minority gets formal care from the market⁴. Formal care is then available only for the two opposite ends of income distribution: the richest and the poorest. Conversely, under universal schemes, access to formal services is more egalitarian, benefits and needs go hand in hand independently of income and, in principle, if the service provision is large enough; relatives of the dependent persons obtain greater autonomy for allocating their time either to work or to leisure. However, the effects of means tested welfare programs over opportunities distribution is a contested issue. Critics of universal distribution report what has been called as the *Mathew's effect* (Le Grand, 1982) indicating that are middle classes who most benefit from welfare programs, hence they defend means-tested criteria as the best way of improving opportunities redistribution (Barry, 1990). Korpi and Palme (1998) rejected these hypotheses when tested on income transfers but, as far as I know, no specific testing has been made on services for invalidity and the elderly.

When the benefits are in cash, a share of public expenditure is more risky of being consumed by beneficiaries in other goods different from those oriented towards the specific needs of disabled persons. Therefore, the formal services demand and supply can be smaller than if the same amount of public funds was directly invested in formal care provision. Furthermore, cash benefits can act as a reservation wage and lower the incentive for other household members to work. Both processes can reinforce each other compelling women to provide informal care and to reduce paid work hours.

Cultural patterns of family support and gender values

The balances between altruism and self interest, as well as between informal care and paid work are forged under the hammer of cultural values. Western Europe politics have inherited a cultural split between Northern and Southern societies following the breaking lines between Protestant and Catholic religions (Lipset & Rokkan, 1968). This cultural divide has influenced social policies (Wilensky, 1981; Fix, 1998) and it is also evident in the attitudes and behaviours related to family support. Considering the perceptions of future family responsibilities for elderly care, more than 60 per cent of adult population in the very Catholic Spain and Austria advocates that working adults should look after their elderly parents, while this figure fits between 40 and 50 per cent among the other selected countries (Alber et al., 2005). The Northern lower family involvement in elderly care should not be understood as an abandonment of filial responsibilities since paradoxically the highest scores of filial responsibility are

⁴ This association is clearly showed in familistic welfare regimes like in Spain (Sarasa, 2000) but, although with less intensity, also appears when public services have been reduced in some of the more developed socialdemocrats regimes like Sweden during the 90's (Trydegard, 2003).

associated to countries where the welfare state is the main provider of elderly care (Daatland & Herlofson, 2003).

A fundamental part of family support is based on informal care provided by women, hence the cultural *gender arrangements* (Pfau-Effinger et al., 2004), as well as different preferences (Hakim, 2000) and moral rationalities (Duncan et al. 2004) between men and women affect the time allocation balance between genders. However, cultural values are not immutable and especially those related to gender have dramatically changed in the second half of the last century although, with heterogeneous intensity among social strata. The definition made by Hakim (2000) of three work-lifestyles among women in the most developed societies is a clear result of those changes in the women's preferences although, it is doubtful if those preferences are as free as Hakim claims (Kangas et al., 2005).

In sum, women's decisions about adult care are the result of rational choices made in the context of household members' interests, cultural institutions and opportunities offered through markets and social policies. We will probably never know the exact weight of each factor and, the difficulties in disentangling one from each other are enormous. However, it is possible to analyse the association between some of those factors and the women's choices between adult care and paid work. More precisely, this paper tries to analyse how welfare regimes affect women's decisions through the invalidity and old age benefits in kind.

Considering all that has been said above, this paper proposes to test the following hypotheses:

1. There is a significant trade-off between adult care and labour supply. This hypothesis will be tested by analysing whether adult care is mainly chosen by inactive women and, if they are employed, whether their labour supply is lower than that offered by women not caring for adults. Labour supply constraints will be identified if a negative association exists between the number of paid-working hours and care-giving time and/or if a high number of care-giving hours at the interval between wave t and wave $t+m$ is associated with a labour supply reduction at the wave $t+n$. Being n lower or equal to m .
2. Welfare regimes affect women's employment opportunities and the supply of substitutive services. Therefore, under Social-democratic regimes, the intensity of women's caring activities has to be lower and the participation in labour market higher than women in conservative regimes do.
3. Means-tested provision of services helps the poorest women to conciliate adult care and employment but, it leaves middle-income households without access to substitutive services.

-III-

Some Patterns of Formal and Informal Care in Different Welfare Regimes

In recent years European Union member states have increased public expenditure on social care and have tried to contain the growth in health and pensions spending at the same time. The reforms implemented in social care policies relative to eligibility criteria and the nature of both the benefits and the providers of services, have made some sociologists think about the obsolescence of classical welfare regimes in the foreseeable future. Some of them identify the key issue in the recent introduction of payments for care and quasi-markets, in their opinion conducting welfare regimes towards a convergence of care regimes. This convergence would be characterised by a greater presence of home-based care allowances, which would lead to an increase in informal care giving (Ungerson, 1997, Daly & Lewis, 2000, Behning, 2005)

Some analysts defend a flat payment for care because it compensates for the caregivers' lost earnings and promotes informal care, discouraging at the same time expensive formal care in nursing homes (Johnson & Lo Saso, 2000). That option would be preferred to subsidising formal care because the last "will distort relative prices and lead to under use of informal care" (Ettner, 1996) and will have substantial effects on intergenerational living and care arrangement decisions (Pezzin et al. 1999). This flat payment recommendation has been welcomed in European conservative regimes like Germany, Austria, Luxembourg and France, where new adult care programs, based on universal flat payment for care, are being implemented since the nineties onwards. However, it is arguable that a similar trend is happening in social-democratic regimes

Although during the 90s Denmark and Finland have introduced some cash benefits in their social care programmes, the provision of publicly funded formal services still is the bulk of their welfare programs for elderly and disabled people. Table 2 shows that both social-democratic regimes have the highest share of GDP devoted to public expenditure on long term care and the highest expenditure per capita on benefits in kind for elderly and disabled people. The Netherlands and Austria stay at the same level than the social-democratic regimes in terms of elder care coverage and, even their public expenditure per capita on old-age and invalidity is higher than the Finish. However, the composition of this expenditure greatly differs since both European continental countries expend more in cash benefits and less in benefits in kind than the Scandinavian states. Spain remains on the low end of coverage and expenditure, while France fits in a closer position to their continental neighbours.

Also during the 90s every country increased its expenditure per capita on benefits in kind for the elderly and disabled people. The Netherlands and Austria made a radical change in their eligibility criteria with means tested benefits becoming preponderant (see graphics 1 and 2). This institutional change in two countries may be a great opportunity for evaluating the effects of means tested on the conciliation of informal care and female labour supply. The universalistic nature of Danish and Finish welfare states is clearly reflected by the absence of means tested programs.

Hence, the informal care in social-democratic regimes differs from other regimes. Table 3 shows how weekly hours of care giving in Denmark and Finland are far lower than in Spain, Austria and the Netherlands. The surprising low ratio of caregivers in France deserves some comments. At first sight, one is prone to think about errors in the ECHP data but, data from other sources warning us against that temptation. France, together with Belgium, offers social care services for children at a similar level than Scandinavian states. However, their supply of public services for the elderly is not very

different from other conservative regimes. The Anttonen & Sipila's (1996: figure 1) comparison of services for children and the elderly also shows how France fits on the opposite end of the Netherlands, with much higher supply of services for children and much lower supply of services for the elderly. Since the 60s onwards, and in spite of several policy proposals for developing community services for the elderly, contrary to what happened in the field of childcare policy, little happened in France during the 80s and 90s (Martin, C. et al. 1998). At the beginning of the 90s a quarter of the elderly living in institutions were depending on means-tested aids from the *Departments* (counties), which local governments can reclaim from the relatives. The main allowance payable to dependent persons was until 1997 the *allocation compensatrice pour tierce personne* (ACTP) paid by local authorities under means tested criteria. A new law passed on 1997 implemented the *prestation spécifique dépendance*, a means tested allowance that substituted the ACTP and introduced a 'help contract' between the family, the local authorities and the providers of help.

However, in spite of the low provision of public services for the dependents, the proportion of elderly women living in the same household or building than their children is in France so low as in the Netherlands, Denmark and Sweden⁵. As far as residential proximity can be understood as an indicator of intergenerational solidarity when other sources of help are lacking, the French position is surprising. Does it mean a prevalence of a cultural model that compels midlife women to reject their role as social carers independently of the access to formal services? Does it mean then that an important part of dependent adults are living without any kind of help? The SHARE⁶ database shows that the proportion of people with difficulties in their everyday life activities receiving help from other person inside or outside the household is in France among the highest of the selected countries. The proportion of persons that have received 'professional or paid home help, for domestic tasks' is also among the highest, only a bit lower than in the Netherlands. Furthermore, the proportion of home help and home care received from market it is also the highest in France⁷. All that suggests that French dependents and the midlife women who could look after them are contracting substitutive services from private providers, although the available data do not allow to say if that provision comes from the formal market or from the black market.

⁵ SHARE data base. See next foot note.

⁶ SHARE is the acronym for *the Survey of Health, Aging and Retirement in Europe* gathering information from a sample of households where at least one of its member is aged 50 or older.

⁷ However, the reliability of these data is not very high since the number of cases is extremely low.

Table 2

Descriptive Statistics of some Old Age and Invalidation Benefits

	<i>Public long-term care expenditure as percentage of GDP in 1997¹</i>	<i>Total old age and invalidity public expenditure per capita in 1997²</i>	<i>Old age and invalidity benefits in kind public expenditure per capita in 1997²</i>	<i>Share of population 65 and over receiving ...</i>		
				<i>Care in institutions³</i>	<i>Home help³</i>	<i>Total</i>
Denmark	1.9	3380	715	7	20.3	27.3
Finland	1.6	2217	281	5.3 to 7.6	14.0	19.3 to 21.6
France	0.7	2460	132	6.5	6.1	12.6
Austria	0.5	2844	156	4.9	24.0	28.9
Netherlands	0.4	2841	188	8.8	12	20.8
Spain	0.3	1515	41	2.8	2	4.8

1: OECD SOCX Data Base.

2: Eurostat data measured in PPS per head.

3: OECD (1999)

Table 3:

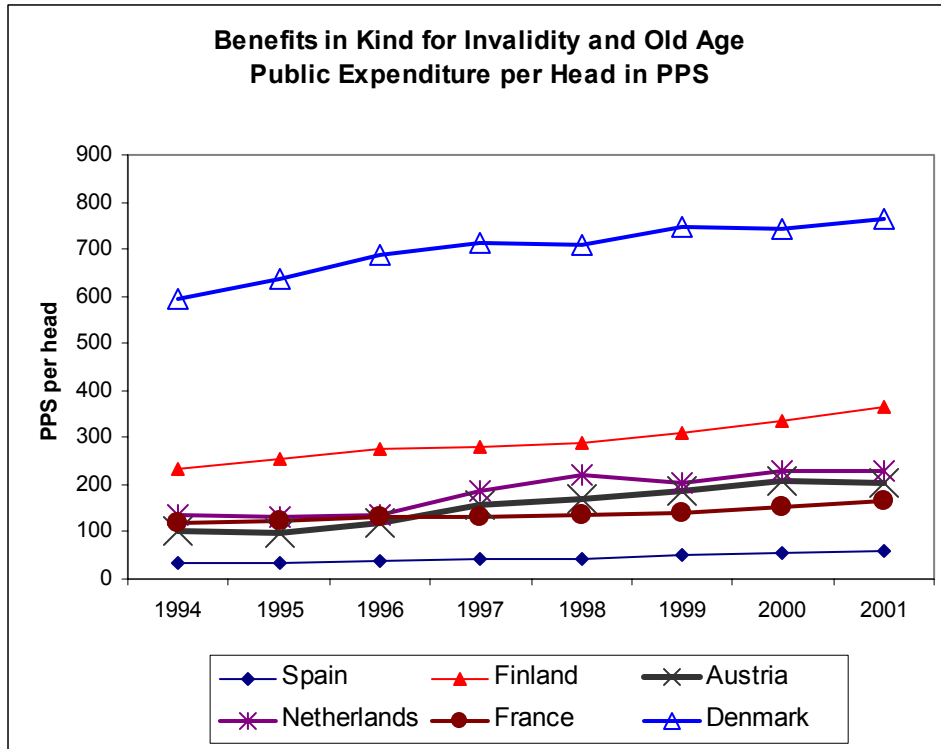
Descriptive Statistics of Midlife Women's Allocation of Time to Adult Care

<i>State</i>	<i>Share of Caring Women</i>	<i>Weekly Hours of Caregiving</i>			
		<i>Mean</i>	<i>Std. Dev.</i>	<i>Median</i>	<i>Quartil 75%</i>
Denmark	7.4	11.6	19.2	5	10
Finland	8.8	12.0	17.4	7	12
France	4.8	14.5	18.1	8	20
Netherlands	9.9	17.0	16.7	14	21
Austria	8.9	21.8	18.8	15	30
Spain	13.4	38.0	26.7	30	56

Midlife women identified as aged between 35 and 59.

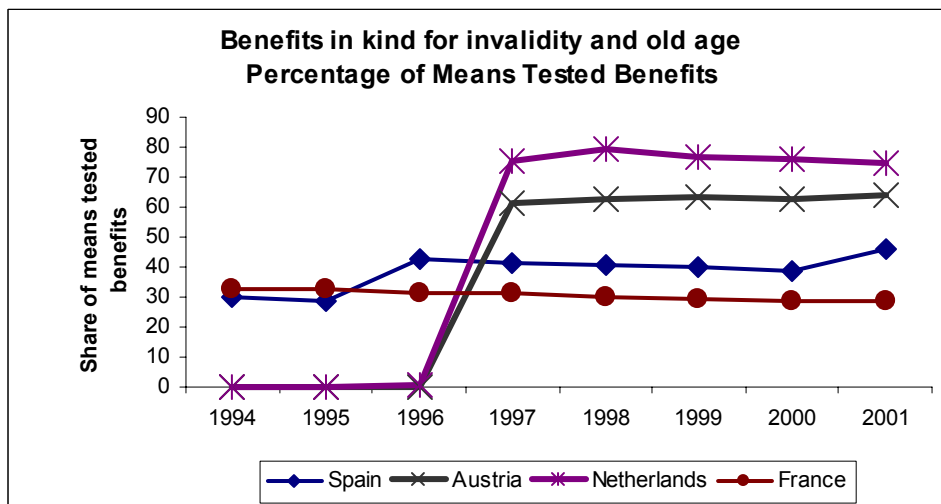
Source: Own elaboration from ECHP (2000)

Graphic 1



Source: Eurostat

Graphic 2



Source: Eurostat

-IV-
Labour Supply and Care-giving

Work hours conditioned by Care-giving

Most of the above mentioned literature on labour supply and adult care-giving trade-off has focused on the endogeneity issue and has confirmed the existence of some simultaneity of both decisions. Endogeneity and selection bias problems can be illustrated using Hakim's typology of women's preferences. Hakim (2000) identifies three women's work-life styles: home-centred, career centred and adaptive, the last trying to conciliate employment and care activities, the two first strongly committed with their respective and antagonist goals. Many home-centred and career centred women would have made their own choices before the paid-work *versus* care-giving dilemma arises. Hence, any trade-off estimates should be done controlling by selection bias. For those adaptive women, the story between care-giving and employment can be told in both directions, sometimes assuming care responsibilities force women to reduce paid-work time but, sometimes if women are low involved in labour market are more prone to accept the looking after relatives. Hence, estimating the net effects of care-giving on the probability of being employed have to be done controlling both endogeneity and selection bias. A Heckman's two-stage model has been chosen to estimate the midlife women's probability of being employed more than 29 hours per week conditioned to the weekly number of hours allocated to adult care, where the probability of choosing to care some adult is the endogenous regressor.

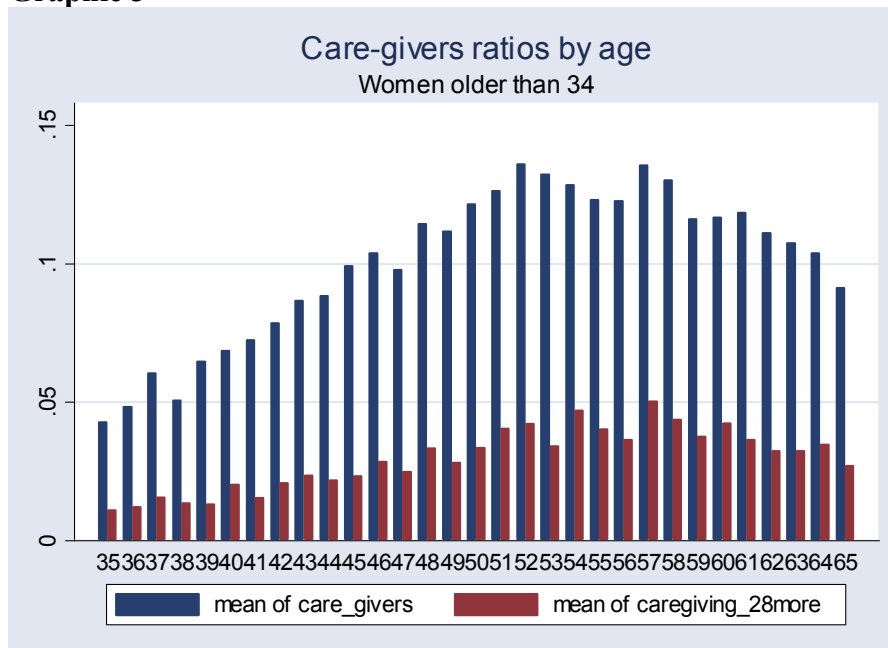
It is assumed that care-giving and, the probability of being employed as well, are constrained by individual factors such as age, health status, education credentials and, marital status. The health status has been measured with an ordinal score, BADHEALTH that takes 5 if the subjective perception of health was very bad and 1 if it was very good. Educative credentials are recorded with three dummies EDUC_1, EDUC_2 and EDUC_3, from lower to higher education, and equivalents to the corresponding three levels of education recorded in the ECHP data base. Education has been selected as an indicator of human capital affecting the employment opportunities and, as a socio-economic status indicator that affects the women's predisposition to assume adult care responsibilities also⁸.

Care demands from relatives, mainly the spouse, the parents and parents in law, increase with aging although there is an age threshold beyond which the probability of adult care decreases because the number of relatives diminishes and because the women's own health deteriorates. Graphic 3 shows how the adult care-givers and care-giving more than 27 hours per week are distributed. Both of them reach their peaks in the 50s. Hence, age is measured as a quadratic function with AGE and SQAGE, the last being squared age. A quadratic function for age has been also incorporated in the outcome regression since the ratio of being employed more than 29 hours per week gets its peak in the first half of the women's 40s and then smoothly decreases till retirement age⁹.

⁸ See the above mentioned works from Kohli, Lennartson et al. indicating that intergenerational solidarity is conditioned by socio-economic status.

⁹ Own estimates from ECHP data.

Graphic 3



Source: Own elaboration from ECHP 1994-2001

Care giving decisions are also constrained by household variables. Women are pressed by competing demands, such as childcare, and their decisions are conditioned by the availability of other adults that can act as a supplementary resource. Hence, the equation incorporates the number of children younger than seven (TOTBORN_7) the number of other adults not disabled (OTHERADULT) and the number of them older than 65 (H_65). Among the household resources, relative disposable income is crucial if women wish to opt for buying substitutive services. Welfare theory predicts that under means tested eligibility criteria only the two ends of income distribution will have access to formal services, while in universal regimes the access will be more egalitarian. Hence, two dummies have been incorporated, RICH that takes 1 if personal equivalent disposable income is in the fourth quartile of the national distribution of income and, POOR that takes 1 if the household equivalent disposable income (using the modified OECD equivalence scale) is under the threshold of 50% of the median.

The model incorporates also contextual factors related to welfare regimes: the expenditure per capita on old age and invalidity services (BENEFIKIND) and the percentage of expenditure per capita on these services that are subjected to means tests (MEANSTEST)¹⁰. It is supposed that these factors affect women decisions with heterogeneous intensity. On the one hand, the public services provision should benefit working women more than home-centred women since the last would be more indifferent to the services supply. On the other hand, means tested programs should benefit poor women against middle-income women. Hence, two interactions have been

¹⁰ There is no systematic and accurate information about long-term care expenditure in European states. However, Eurostat publishes the aggregate invalidity and old age expenditure in PPS per head, and allows differentiating between means tested benefits and benefits in kind.

added to the model; one between work status and services expenditure and, other between low income and the share of services means tested provided. However, the amount of services provided in each nation is somehow determined by the amount of needs. As far as the bulk of invalidity and old age public expenditure is determined by demographic ageing, the model includes the share of people older than 79 (variable V80) as a proxy of total need. Furthermore, country dummies are added, Spain operating in the equations as category of reference. But, the two social-democratic countries have been put together in order to avoid lack of significance because the small Danish sample.

Among the factors described above, age, education, health and marital status, child care and country dummies are both affecting the women's probability of being employed and of being also care-givers but, other regressors must be added for better model specification. Women's unemployment experiences during the last five years give information about their stability in the labour market and, national female unemployment ratios indicate the women's opportunities to get or retain a job. As the main objective is to evaluate the trade-off between adult care and women's employment, the model incorporates TIMECARE, a variable measuring the absolute number of weekly hours of caring and, the employment status has been added to the endogenous equation with a dummy named WORK that takes 1 if the woman works more than 14 hours per week.

Table 4 summarises the set of variables specified in the model and, the results are showed in table 5. There is evidence for selection bias since the *rho* value, although relatively small, is statistically significant, indicating a negative correlation of the residuals in the selection and regression equations. Once the bias has been corrected in the model, the predicted probability of being employed more than 29 hours per week has been estimated. As graphic 4 shows to us, such probability decreases for all the selected countries when women allocate more than 14 hours per week to adult care¹¹. The decreasing trend is lower than the observed bivariate association between care-giving and work time since, the working more than 29 hours per week ratio falls from 44 per cent among not care-givers to 19 per cent among the most burdened care-givers. In sum, the trade-off is lower than the estimated from bivariate analysis but, the trade-off exists and it is important.

¹¹ The highest probability of full-time employment is not for women without adult care responsibilities but, for those women sharing paid work with a small burden of adult care. However, the difference between them is not statistically significant.

Table 4: Sets of explanatory variables in the two-steps regression model

<u>Dependent variables values</u>	
<u>Care-giving Status</u>	<u>Employment Status</u>
1= Looking after any adult.	1= Working 30 hours per week or more
0= Not looking after any adult	0= Working less than 30 hours per week or not working
<u>Identifying regressors</u>	
<i>Otheradult</i> : Number of other adults in the household out of the disabled and the care-giver	
<i>H_65</i> : Number of other adults older than 64	
<i>Rich</i> : Dummy indicating if equivalent disposable income is in the highest quartile	
<i>Poor</i> : Dummy indicating if equivalent disposable income is under the 50% of the median poverty line	
<i>Meanstest</i> : Yearly national percentage of benefits in kind that are subjected to means test	
<i>_IpooXmean</i> : Interaction effect between being <i>poor</i> and <i>Meanstest</i>	
<i>Work</i> : Dummy equal 1 if woman work 15 hours per week or more	
<i>Benefikind</i> : Yearly national expenditure per capita on old age and invalidity services in PPS	
<i>_IworXbene</i> : Interaction effect between <i>work</i> and <i>benefikind</i>	
<i>V80</i> : Yearly national share of people older than 79	
<u>Common regressors</u>	
<i>Age</i> : Woman's age	
<i>Age squared</i> : Woman's age squared	
<i>Timecare</i> : Absolute number of weekly hours of caring at the present wave	
<i>Married</i> : Dummy equal 1 if woman is married or cohabiting	
<i>Totborn_7</i> : Number of children younger than 7 years in the household	
<i>Badhealth</i> : Dummy equal 1 if subjective health status is bad or very bad	
<i>Wasunemployed</i> : Woman's unemployment experience in the last 5 years	
Educational level dummies:	
<i>educ_3</i> : Highest level	
<i>educ_2</i> : Middle level	
<i>educ_1</i> : Lowest level as category of reference	
Country dummies:	
Denmark and Finland have been put together under <i>sd</i> label.	
<i>nl</i> : The Netherlands	
<i>fr</i> : France	
<i>aus</i> : Austria	
Spain as category of reference	

Table 5
Two-Stage Heckman Estimates of Midlife Women's Probability of Being
Employed more than 15 Hours per Week.
Being adult care-giver is the endogenous regressor.

```

Probit model with sample selection          Number of obs   =   74986
                                           Censored obs    =   68422
                                           Uncensored obs  =   6564

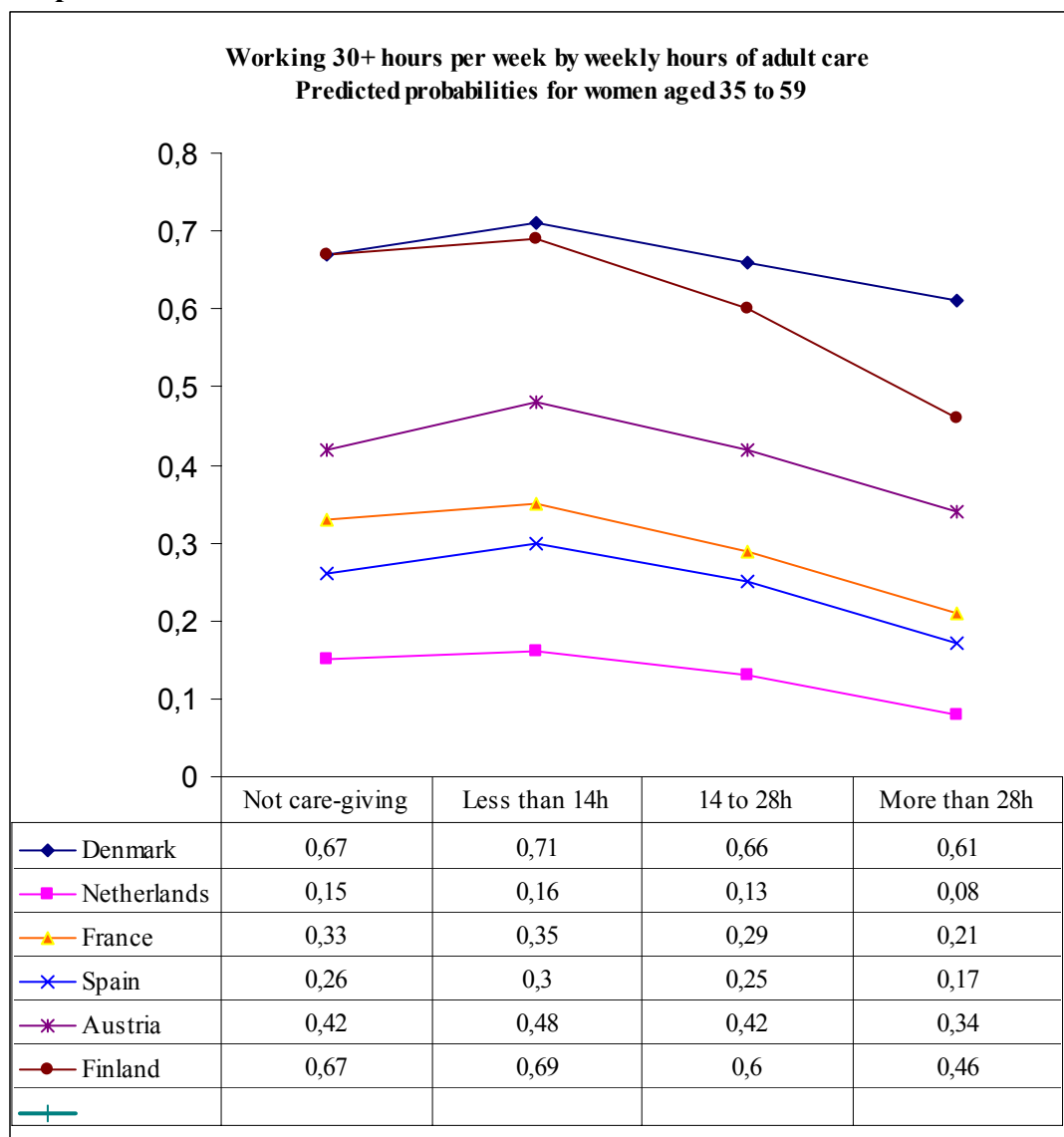
                                           Wald chi2(13)   =   1483.32
                                           Prob > chi2     =   0.0000

Log likelihood = -7124.96

```

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
workprob					
age	.3034695	.0405044	7.49	0.000	.2240824 .3828566
sqage	-.0034539	.0004268	-8.09	0.000	-.0042904 -.0026175
timecare	-.009276	.0009378	-9.89	0.000	-.0111142 -.0074379
married	-.5757988	.0477391	-12.06	0.000	-.6693658 -.4822319
totborn_7	-.2221171	.1078568	-2.06	0.039	-.4335125 -.0107218
badhealth	-.1252758	.0218569	-5.73	0.000	-.1681145 -.082437
wasunemplo~d	-.4941666	.0525123	-9.41	0.000	-.5970887 -.3912444
educ_2	.2238226	.0443138	5.05	0.000	.1369692 .310676
educ_3	.8553413	.0596259	14.35	0.000	.7384768 .9722058
sd	1.041482	.0584492	17.82	0.000	.926924 1.156041
nl	-.6368114	.0573338	-11.11	0.000	-.7491836 -.5244392
fr	.0355264	.0573647	0.62	0.536	-.0769063 .147959
aus	.4187819	.0602515	6.95	0.000	.3006911 .5368727
_cons	-6.142714	.9502233	-6.46	0.000	-8.005118 -4.280311
care-giver					
age	.0787654	.0329428	2.39	0.017	.0141986 .1433322
sqage	-.0007562	.0003484	-2.17	0.030	-.0014391 -.0000734
timecare	14.03445	8620.015	0.00	0.999	-16880.88 16908.95
married	-.1522823	.0414341	-3.68	0.000	-.2334916 -.0710729
totborn_7	-.8062916	.241873	-3.33	0.001	-1.280354 -.3322292
badhealth	.0427243	.0169728	2.52	0.012	.0094583 .0759903
wasunemplo~d	-.1581643	.0440559	-3.59	0.000	-.2445123 -.0718163
educ_2	-.0104898	.0394399	-0.27	0.790	-.0877906 .0668109
educ_3	-.1268437	.0533833	-2.38	0.017	-.2314731 -.0222143
sd	.2691754	.4492611	0.60	0.549	-.6113601 1.149711
nl	.0319372	.2143985	0.15	0.882	-.3882762 .4521506
fr	.2485173	.1247681	1.99	0.046	.0039762 .4930583
aus	-1.072676	.1703756	-6.30	0.000	-1.406606 -.7387464
h_65	.2451509	.0960992	2.55	0.011	.0567998 .4335019
otheradult	.0989218	.0143517	6.89	0.000	.0707929 .1270507
rich	-.0844883	.0402685	-2.10	0.036	-.1634132 -.0055634
_Ipoor_1	.2079173	.0977236	2.13	0.033	.0163825 .399452
meanstest	-.033918	.0030475	-11.13	0.000	-.0398909 -.027945
_IpooXmean~1	-.0037717	.0031918	-1.18	0.237	-.0100274 .002484
_Iwork_1	-.2364667	.0469765	-5.03	0.000	-.3285389 -.1443945
benefikind	-.0093149	.0014748	-6.32	0.000	-.0122055 -.0064242
_IworXbene~1	-.0003601	.0002551	-1.41	0.158	-.00086 .0001399
v80	.3766572	.0377756	9.97	0.000	.3026184 .4506959
_cons	-3.629811	.7799524	-4.65	0.000	-5.15849 -2.101133
/athrho	-.1040997	.0251362	-4.14	0.000	-.1533658 -.0548335
rho	-.1037253	.0248658			-.1521746 -.0547787
LR test of indep. eqns. (rho = 0): chi2(1) = 17.16 Prob > chi2 = 0.0000					

Graphic 4



Dropping Out of Job Conditioned by Care-giving

Another way to evaluate the effects of adult caring on women labour supply is to explore the transitions from activity to inactivity conditional on caring status and the number of years involved in caring.

The two-step probit analysis has allowed us to see the negative association between care-giving and paid-work time but, to assert from here a causal relationship between the two variables is not exempt of problems, even though controlling for endogeneity as has been the case. Another way of getting additional and richer information related to causal relationship consists on establishing a time-related chain of empirical events (Blossfeld et al, 1995). We can follow women over their life course and see if changes in their labour market attachment are the result of a *previous* involvement in adult

caring. However, the use of time-dependent covariates has to avoid as well as the selection bias, the reverse causation problem also (Yamaguchi, 1995). To limit the effects of simultaneous reciprocal decisions, the model has included care-giving lagged effects. Defining the lag length between the two events is a matter of empirical contrast and the model has assumed three different options. The first one assumes that the lag effect is no longer than one year although, it can be a contested option since there is the possibility to plan short term exiting from the labour market or work time reducing and assuming care-giving some months before.

A *care-giving* variable takes the value equal zero when women are not care-givers at the waves n and $n-1$. Under such circumstances, women reducing working time are not constrained by adult care. *Care-giving* takes 1 when women are care-giving more than 14 hours per week in wave n but they are not in wave $n-1$. That is, women reducing working time under such circumstances could be affected in their decisions by assuming a new adult care burden. However, as some of them could have taken a simultaneous choice or, it may be, they could have decided to abandon the job some months before they assumed the adult care responsibility; we need to control this selection bias potentiality. Hence, the *care-giving* variable takes values equal 2 when women are care-giving more than 14 hours per week in waves n and $n-1$ and, takes 3 if women are also care-giving in wave $n-2$. The hypothesized sequence is as follows. Some employed women have to look after adult relatives and try to conciliate employment and care-receiver demands. As far as the care-giving becomes more burdening, that is more time demanding or prolonged, the women's capability to conciliate both activities decrease. Hence, the risk of dramatically reducing paid-work time will increase. Work reducing pathways can be heterogeneous. Women can voluntarily abandon their job, reduce the working time or, be fired because serious decrease in productivity.

Furthermore, a dummy (*years-care*) has been added when women are continuously care-giving for more than three years, although the effect of this variable has an uncertain prediction since it could be a *state-dependent covariate* (Yamaguchi, 1991:137). Staying many years employed and looking after any dependent person at the same time can have two opposite meanings. On the one hand, some women may have found a stable equilibrium between the two competing activities; say they enjoy flexible work schedules, for example. But, on the other hand, one of the penalties of prolonged double burden is stress and this can negatively affect women's permanence in the labour market.

Selection bias control is also intended with an instrumental variable reflecting the women's attachment to the labour market. Since the ECHP data do not allow the measuring of accumulated experience in the labour market, the women's relative earnings can be a second best option since women whose earnings represent a very low share of total household disposable income will have low incentives to keep on employment. Since the average percentage of total earnings contributed by the husband in dual-earners couples vary between 59 and almost 70 per cent in many developed countries (Hakim, 2000 table 4.7), the attachment line chosen has been 25 per cent of the total household earnings and, a dummy variable with value equal one indicates the women's earnings are under such a line.

A discrete-time logit model for event history analysis has been estimated. Events are defined as repeatable one-way transitions from employment to unemployment, marginal

work or inactivity and the group of risk is defined as all employed women working more than 15 hours per week. The estimation has been made relaxing the assumption than multiple spells for each subject could be interdependent among them. The transitions to be measured are the job separations of women aged between 35 and 59. The destinations of those separations are competing risks since women can get a new job or abandon their normal employment for going to inactivity, unemployment or marginal work. As I'm not interested in the competing event of changing to another job, the event has been codified taken 1 if the job separation is to out of employment (or to a marginal job) and 0 otherwise. However, when women began a new job the time variable begins to count from zero again. Table 6 shows some stylized data on those transitions. The highest job mobility in our sample happens in Denmark and the lowest in France although; the transitions to inactivity, unemployment or marginal jobs are higher in Spain and Austria but extremely low in France. Only a small amount of transitions to marginal jobs, inactivity or unemployment were done by women care-giving the year before (118 cases) but, the differences in the risk of transition between care-giving statuses are statistically significant. The risk of transition is 2.9 per cent for women not looking after any adult person and 4.7 per cent for those women care-giving more than 14 hours per week (65 cases at 99 per cent of confidence).

Table 6: Midlife women's job transitions between 1994 and 2001
Women aged 35 to 59

	Moving out from previous job		Transitions to not employed status	
	N	%	N	%
Denmark	631	10.2	225	3.6
Finland	590	7.6	314	4.1
Netherlands	673	8.0	228	2.7
France	357	2.9	76	0.6
Austria	372	7.1	228	4.4
Spain	652	8.9	327	4.5

Source: Own elaboration from ECHP 1994-2001

The model is specified considering the risk period as the number of years in the present job,¹² assuming that the impact of accumulated working time in the same job approach zero (Yamaguchi, 1991). Hence, the chosen transition rates function has been an inverse log function where the longer the time in the same job the lower the risk of abandon it, being the highest risk during the first months after getting it when both, employer and employee are evaluating each other. Women's age is controlled with a quadratic function since their labour market integration rises after child-care and decreases from 50s onwards.

One more dummy variable indicates whether care-giver and care-receiver persons share the same household (*HEMOCARE*) trying to measure if caring at home helps to make caring time compatible with employment, once the number of caring hours has been controlled. Sharing the same household can be the caregivers' preferred option when needs of care are high, because it allows an easier management of time. Hence, although

¹² The ECHP offers no information related to the total number of years working uninterruptedly.

caring at the one's home is associated with great need of care, it will be also associated with more labour supply once the number of care hours has been controlled for.

As in the previous Heckman's model, variables related to education and health status, household structure and women's labour market attachment have been controlled. In this case, country dummies have been rejected since the interactions between the caring status and the country dummies have no significant effects. Table 7 shows the set of variables specifying the model and table 8 the estimates.

Table 7: Set of explanatory variables in the discrete time logit model for one-way transitions from employment to inactivity, unemployment or marginal work

<p><u>Dependent variable</u> <i>Work reducing</i>: 0 = No event 1 = Transition from an episode working 15 hours per week or more to inactivity, unemployment or working less than 15 hours per week</p> <p><u>Explanatory and control variables</u> <i>Homecare</i>: Dummy equal to 1 if both care-giver and care-receiver are living in the same household <i>Care-giving</i>: 0= Not care-giving in the waves n and $n-1$ 1=Care-giving more than 14 hours per week in the wave n but, not care-giving in wave $n-1$ 2= Care-giving more than 14 hours per week in waves n and $n-1$ 3= Care-giving more than 14 hours per week in waves n, $n-1$ and $n-2$</p> <p><i>Yearscaring</i>: Dummy equal 1 if women are continuously care-giving four or more years.</p> <p><i>Invlog</i>: $\log(1/\text{years in job})$ <i>Wasunemployed</i>: Woman unemployment experience in the last 5 years <i>Femunemp</i>: National female unemployment ratio <i>Otheradult</i>: Number of other adults in the household out of the disabled and the carer <i>Totborn_7</i>: Number of children younger than 7 years in the household <i>Badhealth</i>: Dummy equal 1 if subjective health status is bad or very bad in the wave when transition happens <i>Earnshare25</i>: Dummy equal 1 if woman's personal income is lower than the 25 per cent of total household earnings.</p> <p>Educational level: 1 = Highest level 2 = Middle level 3 = Lowest level</p> <p><i>Age</i> <i>Age square</i></p>
--

Care-giving more than 14 hours per week has always a positive impact on the probability of reducing paid-work time. Especially between the first and the third years since women begin to care-give. The lack of statistical significance showed by

coefficients in the case of care-giving the first and the third years indicates that the proportion of women who simultaneously (during the same year) start to care and reduce paid work time are insignificant, as well as the women who reduce paid-work time after two years they started to care. These results seem to confirm that employed women, when they assume adult care responsibilities, try to conciliate both demands but, as far as adult care takes more than 14 hours per week and last more than some months, many women cannot deal with them and decide to reduce work time, to abandon the labour market or, sometimes, they are fired. Women with low education credentials, high unemployment risk, bad health or caring for children are the most risky. However, some other women could manage the situation. The negative coefficient of caring more than three years, although not significant, could be indicating that the wearing down of carers derived from caring for a long time, if happens, has not significant influence in their risk of dropping out of job. It is interesting to notice that caring at the own household, although statistically not significant, seems to be also a best choice for better combining work and care times.

**Table 8: Transitions to Inactivity, Unemployment or Marginal Work
Discrete-Time Logit Regression**

Logit estimates	Number of obs	=	27424
	LR chi2(16)	=	1058.79
	Prob > chi2	=	0.0000
Log likelihood = -3819.0792	Pseudo R2	=	0.1217

<i>Workreducing</i>	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
<i>Not care-giving as category of reference</i>						
Caregiving1	.1432601	.0816874	1.75	0.079	-.0168443 .3033645	
Caregiving2	1.248528	.3950652	3.16	0.002	.4742143 2.022842	
Caregiving3	.5210138	.3711834	1.40	0.160	-.2064923 1.24852	
<i>Highest education as category of reference</i>						
Middel educ	.432836	.0952731	4.54	0.000	.2461041 .6195678	
Low educ	.4165079	.0926905	4.49	0.000	.2348378 .5981781	
homecare	-.6289493	.4189329	-1.50	0.133	-1.450043 .192144	
yearcare	-.7477004	.5339044	-1.40	0.161	-1.794134 .298733	
invlog	.6054125	.0356266	16.99	0.000	.5355856 .6752394	
wasunemploed	.8187486	.0779409	10.50	0.000	.6659874 .9715099	
femunemp1	.0037541	.0056525	0.66	0.507	-.0073246 .0148328	
otheradult	-.0348314	.0408741	-0.85	0.394	-.1149431 .0452803	
totborn_7	.2946575	.1126753	2.62	0.009	.0738179 .5154971	
badhealth	1.312208	.2494429	5.26	0.000	.8233089 1.801107	
earnshare25	.3246022	.0785912	4.13	0.000	.1705662 .4786382	
age	-.7217199	.0687403	-10.50	0.000	-.8564484 -.5869913	
sqage	.0085043	.0007367	11.54	0.000	.0070604 .0099481	
_cons	11.8182	1.573776	7.51	0.000	8.733652 14.90274	

Summarising the results, the two-step Heckman's model and the event history analysis confirm the existence of a trade-off between adult care and paid-work activities once a minimum of care-giving hours threshold has been crossed. The greater the number of hours allocated in caring for adults, the smaller the number of hours allocated in paid work when women are looking after any adult more than 14 hours per week. Under some circumstances, employed women are even reduced to abandon their jobs and the labour market. The next step now, once the negative association between labour supply

and caring time has been placed firmly, is to evaluate if welfare regimes have any effect in women's risk of caring for adults.

-V-

Care Giving and Welfare Regimes

For determining if welfare regimes constrain care giving decisions or not, two different methods are going to be applied. First, we are going to go back to the Heckman's model estimates and; second, an exploratory event history analysis on the transitions to the caregiver status. In both cases, the lack of information about the parental and other closed relatives' health status and resources limit the precision of estimates.

Care-giving Status and Welfare Benefits

The previously estimated two-stages Heckman's model (see table 5) gives relevant information about the factors related to adult care-giving. Competing demands as childcare and to be married or cohabiting reduce the women's chances of adult care-giving. However, the chances increase when other adults are living in the same household, even though they are elderly. Two hypotheses sound reasonable for explaining it. More adults sharing the household involves more resources for helping women but, this increase in care-giving behaviour could be also the result of a selection bias if extended families were more common among these households. Home centred women are supposed to be more frequent among extended families.

The effects of socio-economic status are contradictory with the results obtained from intergenerational solidarity studies. Socio-economic status, measured with education credentials and with disposable income, both confirm that the lower the women's status the higher their probability of being care-givers. Means-tested benefits, where they exist, are of little help to poorer women, since the interaction effect between being poor and means-tested intensity is not significant. Contrary to the hopes sustained by the *Mathews' effect* critics against universal provision of benefits, means-tested benefits have a strong negative impact on women's care-giving burdens, no matter how poor or rich they are. Conversely, the amount of public expenditure on services works as a real substitute for informal care. Its specific effect on employed women is statistically not significant however, although the coefficient sign is as it was hypothesised.

Country dummies effects disappear for Social-democratic regimes and the Netherlands once the benefits variables have been controlled. Only Austria and France still keep a significant effect relative to Spain. Some unknown national factors induce Austrian women to a lower propensity to adult care-giving, while do French to a bit higher.

Transitions to Heavy Care-giving

Around a 5 per cent of midlife women increase every year the number of care-giving hours in the selected countries. Almost 40 per cent of them move from no adult caring

activities to care giving less than 14 hours per week. Around a 30 per cent move to caring between 14 and 28 hours per week and, another 30 per cent move to care more than 28 hours, both coming from not caring or caring a lower number of hours. Table 9 shows the transitions distribution by countries. Most of transitions in the Scandinavian countries are to the lighter caring burdens while, the transitions to the heaviest burdens mainly happen in Austria and Spain.

Table 9: Transitions to different stages of care-giving hours

	<i>Less than 14 hours</i>		<i>Between 14 and 28 h.</i>		<i>More than 28 h.</i>		<i>Total</i>	
	N	%	N	%	N	%	N	%
Denmark	205	2.7	37	0.5	46	0.6	288	3.8
Finland	247	2.5	53	0.5	35	0.4	335	3.4
Netherlands	384	2.2	344	2.0	115	0.7	843	4.9
France	334	1.7	122	0.6	79	0.4	535	2.7
Austria	159	1.7	135	1.4	113	1.2	407	4.3
Spain	214	1.1	353	1.8	636	3.2	1203	6.1

Source: Pooled data from 1994 to 2001 for women aged between 35 and 59.
Percentage estimated over total sample

We have no information about the care-receivers needs, neither about the existence of other supplementary care-givers but, in spite of this lack of fundamental information, we can explore other factors that influence these transitions to adult care. Especially, those factors related to welfare benefits once women's individual, household and other contextual characteristics have been controlled. As in the case of job transitions analysis, a discrete-time logit model has been specified analysing transitions to care-giving more than 14 hours per week, since this is the critical threshold where the trade-off between paid-work and adult care becomes apparent. The analysis is made assuming repeatable one-way transitions and time-independent covariates. When considering the transition to caregiver status it is assumed that all subjects enter the risk period at the age of 35 and exit at the age of 60. This definition of risk is obviously not the best but, we lack information about the main factors in the women's risk of care for adults, -the number and health status of their parents and other relatives about all- and we neither know who of the women have already passed the event of caring for their parents at the moment of the survey. The estimates have been made separating Social-democratic from Conservative regimes due to reasons exposed bellow.

All the variables specifying the model are the same we have just seen in the first step of the Heckman equation estimation, but with two exceptions. First, an additional variable measuring women's occupation distinguish women employed and, among them, those employed as agricultural and fisher workers. Farm workers and people living in rural areas in general share more traditional values about woman and man roles in the family. Furthermore, the supply of formal services is scarcer than in urban areas and many times, the work schedule in rural areas is more flexible to adapt to adult care demands. The estimates show that this hypothesis can not be rejected in Conservative regimes where the transition rates are the highest among agricultural workers, even higher than among inactive women. However, no significant occupational differences can be observed in Social-democratic regimes.

Second, country dummies have been dropped because the small number of events in some countries and, they have been substituted for two big aggregates; one for Social-democratic and, the other for Conservative regimes. However, for avoiding disturbances the model has been estimated in two separate steps; one for each separate welfare regime. The previous inclusion of both welfare regimes together in the same equation produced serious disturbances in the welfare benefits estimates contradicting theory and common sense. Benefits in kind had a non sense positive association with the probability of starting to care more than 14 hours per week and conversely, the share of means-tested expenditure had a negative association. The strong link between benefits in kind and means-tested in Conservative regimes is absent from Social-democratic regimes and, this difference alters the effects of service provision in different welfare regimes. Estimating welfare regimes separately makes the effects of benefits more sense. Public services expenditure per head increases women's chances to choose if care-giving or not. The higher the expenditure, the lower the transitions to care-giving more than 13 hours per week, whatever being the welfare regime. However, the positive effect of benefits in kind is negatively affected when means-tested criteria are implemented in the services access, as it happens in Conservative regimes. As in the Heckman's estimation, the interaction between means-tested services and women's low income has no effect and, it has not been included in the final equation.

Other things being equal, age, unemployment risk, income status, household structure, health and, education status over the transition rates have the same effects over the transition rates than over the probability of being a care-giver estimated in the first stage of the Heckman equation. However, these results deserve some comments. The positive association between bad health and care-giving should be read carefully. In the Heckman model's estimates we are seeing a static association between health and care-giving but, we know nothing about the sequence. However, we know well that heavy care-giving for a long time deteriorates care-givers health¹³. In the transition risk estimates there is a sequential positive association where, starting to care happens more frequently among women with bad health but, this association is spurious due to the way of health status measuring. The association between health and starting to care disappears once the five levels ordinal scale is substituted for a dummy taking one if woman has bad or very bad health.

The effects of education status are also an interesting issue. Researchers in the field of intergenerational solidarity sustain empirical evidence in favour of more conditional help among the higher strata. However, my estimates show a higher probability of care-giving among the lowest educated and, although less consistent, among the poorest also. These results would not be contradictory with intergenerational solidarity hypothesis if we could contrast that unconditional solidarity is the bulk of intergenerational relationships. Otherwise, if conditional solidarity was the norm, a serious contradiction would arise between intergenerational help and these results but ECHP database does not allow contrasting it.

¹³ Prevalence of neurotic disturbances is important among caring women and it is associated to situations where being in charge of some dependent is so heavy that has negative consequences on care giver employment (Singleton et al., 2002). The survey conducted by the PSSRU (1998) among English care givers detected, not only a high prevalence of mental disturbances but also, that more than a have had been ill during the year previous to the interview; that ratio rose as far as care giving hours grew. The most common illnesses were hypertension and osteo-muscle diseases.

Interactions between benefits in kind expenditure and employment status and, between means-tested share and poverty status have been added to the transitions model. Means tested programs are once more no significant in altering the poor women's chances of opting for not care-giving while increase the risk of transition for all women. Conversely, the public services expenditure reduces the risk and, such reduction is significantly higher for employed women in Conservative welfare regimes. However, the estimated predicting capacity of public services expenditure over women's choices could be exaggerated because levels of measurement problems. The variable is indicating two different expenditure dimensions at the same time, since the variable is measuring the yearly evolution of the national expenditure per head. One dimension is the national relative position and, the other the historical trend between 1994 and 2001. The risk of disturbances derived from national patterns, such as specific cultural values, labour market regulations or other institutional factors, is high since the variable operates as an indicator of nation's relative position. For avoiding this potentially bias, the model has been also estimated replacing the expenditures per head with a temporal expenditure index, which takes value equal 100 the first wave. Regressing transition events over this variable indicates the impact of any increase in the expenditure over the risk of transition. The estimate has been limited to Social-democratic regimes in order to catch the net effect of public services expenditure trend without means tested interferences (the correlation between the means-tested share and the expenditure index is 0.74 for the selected Conservative regimes). The predicted value of being employed estimated by the Heckman's model has been added as instrumental variable controlling selection bias. The estimated coefficient (-0.19) indicates a negative association between the risk of starting to care-giving more than 14 hours per week and the public services expenditure increasing, as theory predicts, although only at a 15% of significance (z statistic = -1.43)¹⁴. Finally, table 10a shows how women employed in the public sector seem to enjoy a greater flexibility for starting to assume heavy burdens of adult care and paid work in the Social-democratic regimes, since the dummy *public* has a positive sign, although not very significant.

¹⁴ Other model results are not showed but, are available under request.

Table 10a: Transitions to Care-giving 14 or more Hours per Week
 Discrete-Time Logit Regression on Welfare Benefits and Employment Status Observed Value

a) Social-democratic Welfare Regimes (Denmark and Finland)

Logit estimates Number of obs = 15000
LR chi2(20) = 133.60
Prob > chi2 = 0.0000
 Log likelihood = -759.40958 Pseudo R2 = 0.0808

star14	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
age	-.082466	.2010936	-0.41	0.682	-.4766023	.3116703
sqage	.0014464	.0020786	0.70	0.487	-.0026276	.0055204
badhealth	.1801287	.1007729	1.79	0.074	-.0173826	.37764
<i>Highest education as category of reference</i>						
Intermediate	-.1154137	.2220509	-0.52	0.603	-.5506255	.3197981
Lowest educ	.2371681	.2327667	1.02	0.308	-.2190462	.6933824
married	-.2492668	.2277225	-1.09	0.274	-.6955948	.1970611
h_65	.2511458	.3945475	0.64	0.524	-.5221531	1.024445
otheradult	.4449685	.1083549	4.11	0.000	.2325968	.6573402
totborn_7	-.2334962	.38473	-0.61	0.544	-.9875531	.5205607
femunemp	-.4121567	.0905536	-4.55	0.000	-.5896386	-.2346748
wasunemployed	-.1167923	.2073499	-0.56	0.573	-.5231907	.289606
public	.3833395	.2311738	1.66	0.097	-.0697529	.8364318
<i>Inactive as category of reference</i>						
No agricultu	-.2584715	.3074231	-0.84	0.400	-.8610097	.3440667
Agriculture	.462504	.4739457	0.98	0.329	-.4664124	1.391421
work	-1.189195	.5707904	-2.08	0.037	-2.307924	-.0704665
benefikind	-.0044707	.002297	-1.95	0.052	-.0089728	.0000313
IworkXbenefi	.0012661	.0008919	1.42	0.156	-.0004819	.0030141
rich	-.0482305	.1968577	-0.25	0.806	-.4340646	.3376036
poor	.265495	.4371389	0.61	0.544	-.5912815	1.122272
v80	-.6607914	1.161526	-0.57	0.569	-2.937341	1.615758
_cons	4.344164	5.983314	0.73	0.468	-7.382916	16.07124

Table 10b: Transitions to Care-giving 14 or more Hours per Week

Discrete-Time Logit Regression on Welfare Benefits and Employment Status Observed Value

b) Conservative Welfare Regimes (France, Austria, Spain and The Netherlands)

Logit estimates Number of obs = 60475
LR chi2(22) = 1079.35
Prob > chi2 = 0.0000
Log likelihood = -7604.5124 Pseudo R2 = 0.0663

star14	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
age	.2659729	.0558057	4.77	0.000	.1565956	.3753501
sqage	-.0025897	.0005849	-4.43	0.000	-.0037361	-.0014432
badhealth	.0656439	.0290836	2.26	0.024	.008641	.1226468
<i>Highest education as category of reference</i>						
Intermediate	.2107626	.1063096	1.98	0.047	.0023997	.4191256
Lowest educ	.2576914	.1000759	2.57	0.010	.0615461	.4538366
married	-.2927093	.0684425	-4.28	0.000	-.4268541	-.1585645
h_65	.7361581	.1398578	5.26	0.000	.4620418	1.010274
otheradult	.2319653	.021435	10.82	0.000	.1899534	.2739771
totborn_7	-.2755491	.1220479	-2.26	0.024	-.5147585	-.0363397
femunemp	-.1055949	.0097393	-10.84	0.000	-.1246836	-.0865062
wasunemplo~d	-.1270037	.0706066	-1.80	0.072	-.2653902	.0113827
public	-.0461333	.1018238	-0.45	0.650	-.2457043	.1534377
<i>Inactive as category of reference</i>						
No agricultu	-.1790625	.1027601	-1.74	0.081	-.3804686	.0223436
Agriculture	.4542955	.1552768	2.93	0.003	.1499586	.7586323
work	-.0693099	.1457094	-0.48	0.634	-.3548951	.2162754
benefikind	-.018236	.0013542	-13.47	0.000	-.0208902	-.0155819
IworkXbenefi	-.0023704	.0007874	-3.01	0.003	-.0039137	-.0008271
rich	-.0942194	.0628657	-1.50	0.134	-.2174338	.028995
poor	-.1447142	.2008934	-0.72	0.471	-.538458	.2490295
meanstest	.0229005	.001584	14.46	0.000	.0197958	.0260051
IpoorXmeanst	.0021717	.0046936	0.46	0.644	-.0070275	.0113709
v80	-.7837198	.0989027	-7.92	0.000	-.9775654	-.5898741
cons	-4.926923	1.400004	-3.52	0.000	-7.67088	-2.182965

-VI-

Concluding Remarks

Adult care responsibilities increase with age. They compel midlife women to allocate time to look after elder generation members, spouses and other relatives. These responsibilities reach an important peak when women are over fifties and, they can be still active in the labour market. Whether a trade-off between adult care and paid work exists has been studied for some European nations and, the ECHP data confirm the existence of such a trade-off. Generally speaking, looking after any adult person more than 13 hours per week raises important difficulties in conciliating it with being employed for more than 15 hours per week. The difficulties are greater as far as the time demands increase. The way women manage the trade-off between adult care and work

is constrained by the household composition and by their position in the labour market. Household composition reflects other demands competing with adult care and, at the same time, available resources for coping with demands. Married or cohabiting women are less available to assume adult care; even less if they have to look after children. When other adults share the household with women, they can help them in supplying alternative money or complementary time, no matter if these adults are elder, allowing women to assume adult care responsibilities. The choice between adult care and employment resolves itself depending on the relative position women occupies inside the household earnings distribution. Women are more prone to choose adult care when their earnings are relatively weak. These results confirm both, the power resources theoretical predictions and, the cultural values hypothesis also; since more home-centred women would tend to occupy a marginal position in the household labour supply.

Women's labour market position relates to adult care-giving in a complex way that has not been deeply studied in this work. However, some empirical evidence has been gathered illustrating how the risk of assuming a high number of care-giving hours is the greatest among inactive women. But, when they are employed, the risk of being unemployed seems to compete with adult care demands. Those women who have had unemployment experiences in the last five years are less prone to assume adult care and, all the estimates got through probit sample selection and event history analysis have shown that the national female unemployment ratio negatively affects women's adult care responsibilities.

Other main factor affecting adult care patterns is social policy. The access to substitutive services is crucial in determining how women resolve the trade-off in favour of employment. Poor provision of public services constrains the women's choices in favour of reducing paid work or, of transferring the adult care responsibilities to other relatives, if it they are available; unless women's household enjoys a high standard of living allowing them to afford to services provided by the market. Limiting the access to public services through means tests does not seem to be a good welfare promotion. It does not provide women so many choices as universal provision do and, neither seems to help the poorest, as critics of universalistic programs claim.

As welfare regimes theory predicts, the distribution of women involvement in adult care ranks from the lowest levels in social-democratic to the highest in familistic regimes. However, this lower involvement does not mean that women are free of adult care giving. There is no significant difference in the share of women looking after any adult person between the social-democratic regimes and the others. The most distinguishable pattern of care-giving in social-democratic regimes is the lowest average of hours that women have to devote when they care for adults.

The amount of public expenditure on formal services and the share of them provided under means tested criteria seem to play an important function in explaining welfare regimes different results. Publicly financed services work very well as substitutive household services allowing women with dependent relatives to go on working. Social-democratic regimes, with their large programs of social care, whose bulk of expenditure is on benefits in kind accessible under universal criteria, are the best combination for allowing women to manage the care-work trade-off. The new policies implemented in conservative regimes, with their emphasis on cash transfers, are a second best option

since they also provide some subsidised formal services through Social Security or voluntary organisations. However, the combination of universal flat payments with services provided through means tested criteria is less effective in reducing the incompatibility between paid work and care-giving. The worst situation for women is in the 'familistic' regimes like Spain where the poor coverage of public services for old age and invalidity greatly compels midlife women to assume most of the burdens.

In sum, the analysis of care-giving decisions must incorporate the welfare regime context as a significant factor. More specifically, the differentials in subsidized formal services provision and the eligibility criteria for accessing to them are crucial factors.

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