

Time with Children: Do Fathers and Mothers Replace Each Other When One Parent is Unemployed?

Le temps consacré aux enfants: les parents se substituent-ils l'un à l'autre quand l'un est au chômage?

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Abstract This article aims to study the substitution of parental time between the mother and the father. Taking the “experience” of unemployment as a release from the time constraint, we analyse time transfers between partners in such a situation. A bivariate Tobit model is applied on the French time-use data. It shows that parents quite rarely substitute the time devoted to children between each other, except for child transportation and childcare. Parents do not want to relinquish their parental activities, a fact which reflects their desire to contribute to the children’s education, and the contribution of parental time to the balance of power between spouses. Exchanges remain asymmetric: non-employed fathers release less their partner from parental tasks than unemployed mothers do, which reflects the weight of gender social norms.

Keywords Parental time · Childcare · Unemployment · Family time use · Household division of labour · Social norms

Résumé Cet article étudie les réallocations de temps consacré aux enfants entre parents. Nous analysons le cas particulier des transferts de temps entre conjoints quand l’un est au chômage, situation dans laquelle la contrainte de temps est plus souple. A partir d’un modèle tobit bivarié estimé à partir des données françaises de l’Enquête *Emplois du temps* (INSEE 1999), nous montrons que les parents se substituent rarement pour le temps consacré aux enfants, sauf pour les temps de trajet et les activités de soins. Les parents renoncent peu à leurs activités parentales, manifestant ainsi leur désir de contribuer tous deux à l’éducation de leurs enfants, le temps parental pouvant se révéler un moyen d’exercer son pouvoir au sein du

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couple. Les échanges restent asymétriques, les pères chômeurs déchargeant moins leur conjointe des tâches parentales que les mères au chômage, ce qui reflète le poids des normes sociales.

Mots-clés temps parental · soins aux enfants · chômage · allocation du temps · division du travail · normes sociales

1 Introduction

In France, the goal of gender equality within the family has been raised very recently on the political agenda. For instance, the introduction of statutory paternity leave in 2002 was aimed at involving fathers in parental tasks. This rather timorous measure (its maximum duration is 11 days) has been a success, and 60% of fathers took this leave from the outset. In the same vein, alternating custody has been authorised since 2002 thanks to a divorced fathers' protest movement demanding more consideration of the paternal role by the courts.¹ These measures are in line with a growing literature, which shows that the father's involvement with his children, and not only the mother's, increases children's well being (Silverstein and Auerbach 1999; Crockett et al. 1993; Easterbrooks and Goldberg 1984).

Apart from paternity leave, French family policies are gender neutral in theory, as are the family policies of most European countries. By offering a measure that is the same for both mothers and fathers, gender neutral policies implicitly assume that mothers and fathers are interchangeable. For instance, the 3-year parental leave may be taken by either mothers or fathers. However, in fact very few fathers—only 2%—take this leave, a fact which raises the question of the interchangeability of parents for parental tasks. Do parents substitute each other for parental tasks? In other words, can they replace each other? Can either parent do any one of the various tasks involved? If parents replace each other for parental tasks, family policies should be gender neutral; otherwise they should encourage fathers to be more involved, as is the case with the specific father's leave in Sweden and Iceland.² In this article, parental tasks are measured by the total time given by parents to activities devoted to children, called 'parental time'.

The literature on the division of time between partners usually studies the impact of women's employment on fathers' and mothers' time with children (Bianchi 2000; Hofferth 2001). It shows that women's working hours reduce the amount of time mothers spend caring for children (Ichino and De Galdeano 2005), but have no significant effect on father's time with children (Pleck 1997; Zick and Bryant 1996). We go one step further by analysing not only the impact of women's employment, but also of men's employment. Does men's position on the labour market affect the amount of time devoted to their children? In order to test whether parents are perfect

¹ In 1994, 8.6% of children whose parents were separated lived with their father (Villeneuve Gokalp 2000).

² Two months of the Swedish parental leave cannot be transferred between the parents. In Iceland, since 2000, the leave is distributed so that fathers are given three months' leave, mothers 3 months and the parents are given 3 months to share as they wish.

substitutes or not, we study a symmetrical situation, i.e. we compare each spouse's parental time according to the working status of both partners.

We look at the situation where the spouses have very different time constraints, i.e. when one of the parents is unemployed. There may be many other situations that influence transfers in parental time between partners, such as one partner working part-time or being on sick leave. We focus on this specific situation because it represents a sort of "natural experiment" of both a financial loss, but also a time gift in terms of time-sharing. Indeed, the unemployed parent's time constraint is much more flexible and she/he can spend more time with the children. Moreover, since unemployment may be considered as an exogenous shock for the family, unlike part-time work³ or inactivity,⁴ we analyse the impact of unemployment on own parental time and on spouse's parental time.

The New Home Economics models dealing with the division of tasks within the household assume that men and women substitute for domestic (and parental) tasks. However, there is a huge cultural and normative pressure to be considered as a "good parent", which is far stronger for women than for men. Does being unemployed only affect own participation in parental tasks, i.e. is there no substitution? Or does it also affect the partner's parental time, i.e. is there substitution? Does it make a difference whether the mother or the father is the unemployed person?

To answer those questions, we analyse the impact of unemployment on own participation in parental tasks. Our first hypothesis is that *the unemployed partner's parental time should increase*, due to both the greater time availability and the lower opportunity cost.

We also analyse the impact of unemployment on the partner's participation in parental tasks. Our second hypothesis is that *transfer is a one-way process from men to women* due to gender role specialisation.

Parental activities are not homogeneous, some of them may be more pleasurable or may increase the prestige of the parent. Our third hypothesis is that the unemployed parent prefers to relieve his/her partner of the more pleasurable activities, i.e. *transfers from women to men occur only for the more status-enhancing activities*.

To test these hypotheses we use the data from the Time Use survey conducted in 1998 and 1999 by INSEE, the French national statistics office. A sample of couples with one non-working partner and one working partner is compared with couples where both partners are working full time.⁵ We compare both partners' time investments and distinguish various types of activities devoted to children: leisure time, homework, daily care and transportation.

³ Contrary to Nordic countries or Netherlands, part time work is not the norm for French working mothers. Around 35% of working mothers work part-time.

⁴ We did not consider inactive (or out-of-labour-force) women because they are likely to have chosen this status in order to take care of and spend time with children, whereas unemployment is considered as an external shock.

⁵ We are not able to compare time schedules in a dynamic way because the survey used is cross-sectional.

2 Models of Time Allocation Between Partners

The economic theory concerning time allocation between spouses focuses on the distribution of paid employment, leisure time and domestic work. The seminal models of arbitration concerning the quality and quantity of children (Becker 1965; Gronau 1977) include parental time. In that framework, parental time, along with financial spending, constitutes an investment in “child quality”. Both parents derive utility from raising children and both of them engage in the process. The model assumes that male and female time are substitutes. It explains that women spend more time on childcare than men because their comparative advantage in household work is higher since their income is generally lower.

On the other hand, sociological theory emphasises the role of norms and gender roles in explaining the division of labour between spouses (Shelton and John 1996). According to this theory, traditional gender roles lead to a traditional role division between spouses. They state that gender role ideology has a positive impact on men’s involvement in household labour, if men hold egalitarian attitudes (Zuo and Tang 2000).

Relatively few empirical studies explicitly analyse the division of parental time between spouses. Most demographic and sociological studies focus on the impact of being a working mother on parental time⁶; they generally conclude that maternal time is reduced (Bianchi 2000; Hofferth 2001; Ichino and De Galdeano 2005). Zick and Bryant (1996) show that the working mother’s reduction in child care time is due almost exclusively to a reduction in secondary child care time. Hunt and Kiker (1984) find that the parental time of working mothers varies according to the children’s sex and age: being in employment has no impact on the time they spent with pre-school children, but decreases the time spent with teenagers. Ichino and De Galdeano (2005) argue that working mothers in part-time employment can spend more time on child care than those who work full time, regardless of the availability of public child care arrangements.

Regarding long-term trends, many studies on changes in parental time over the years show that despite women’s increasing labour market participation, parental time has increased significantly over the last few decades (Sayer et al. 2004 for the United States), except in Sweden where it fell between 1984 and 1993 (Klevmarken and Stafford 1999).

More recent studies also concentrate on fathers’ parental time. They show that parental time has increased for men especially, and the gender gap has been substantially reduced (Gauthier et al. 2004; Bianchi 2000 for the United States;

⁶ Many studies have been devoted to searching for negative effects of maternal employment on children’s academic achievement and emotional adjustment. It is an issue of heated debate, empirical results being contradictory. For instance, Greenstein (1995) and Hill et al. (2005) found that mother’s employment could have a negative impact, especially during the children’s early years, whereas Parcel and Menaghan (1994) concluded that this is only the case when employment is associated with another stressful situation such as long hours of work. A recent study correcting for family fixed effect models concludes that there is little evidence that mother’s employment negatively affects children’s early test scores (James-Burdumy 2005). This debate lets Bianchi (2000) conclude “It would appear that the dramatic movement into labour force by women of childbearing age in the United States has been accomplished with relatively little consequence for children”.

Fisher et al. 1999 for Great Britain; Bittman 1999 for Australia). Spitze (1988) shows that men's increased participation in household work mainly concerns time spent on child care. These studies show that the professional and family spheres are in direct competition as far as time is concerned, but that the relationship between own employment and own investment in parental time is not necessarily negative. In Canada, for example, the decrease in men's work time and personal time allows them to invest more heavily in parental time, while the increase in women's work time is balanced by a reduction in their personal time, and not by a decrease in parental time (Gauthier et al. 2004). The main difficulty of these studies, underlined by the authors, is the considerable interdependence of decisions concerning work time and individual parental time. Moreover, in these studies, the mothers' employment status is treated as a dichotomy (employed or not), with no recognition that non-working mothers may behave differently from unemployed mothers.

The substitution of parental time between spouses is scarcely addressed. The sociologists Nock and Kingston (1988) show, on a small sample of American spouses, that husbands provide backup to their working wives, but only at a particular time (after 18.00). The father's work time affects mother's leisure time with children. In an economic framework, Gustafsson and Kjulin (1994) and Hallberg and Klevmarken (2003) showed that in Sweden, maternal time increases with the partner's paid labour hours, while the wife's paid labour hours have no significant impact on the time spent by the husband on non-market work. Garcia-Crespo and Pagan-Rodriguez (2002) from Spanish data, also find that only male working hours increase maternal time and that working hours tend to reduce own child care. But contrary to Hallberg and Klevmarken (2003), they do not control for endogeneity of working hours.

Thus spouses' parental times do not appear to be substitute or only in one direction: transfers occur from the father to the mother, but not the reverse. As the division of work between partners remains more traditional in France than in Sweden (Anxo et al. 2002), one can assume that parental time is even less transferable in France. We will go further and examine (i) the effect of employment status on parental time instead of working hours, which are often endogenous and (ii) whether this substitution depends on the type of parental tasks.

3 Data and Concepts

3.1 Data: Survey and Sample

Time Use Surveys represent an extremely detailed source of information on daily activities, providing a unique tool to measure very precisely the time devoted to different activities. According to Gershuny (2000), time diary surveys are the most accurate available way to collect information on time spent in non-market activities, especially in child care tasks, which occur with some intermittence, even if studies of this kind do not take account of passive time, for instance, or of the mental burden of organising activities for the children (Folbre et al 2005). In this study, we

use the Time Use survey conducted by the French National Institute for Statistics and Economic Studies (INSEE) from February 1998 to February 1999, in which all adult members (aged 15+) of the 8,186 households surveyed were interviewed. This survey was conducted on a representative sample of the French population, over the entire year to avoid seasonal effects. The data set contains rich sets of information on individuals and household's background and socio-economic situation. Beside this traditional information, it contains time use data, collected using the time diary technique. The respondents filled out, for a particular day given by the interviewer, a 24-h diary, in which they recorded their activities, indicating the time spent on each activity, by 10-min time periods.⁷ The respondents' own words were coded into 144 different types of activities. Several activities could have been performed at the same time, in which case two activities were listed, one being considered the primary activity and the other secondary. Since secondary activities were not frequently mentioned in the diaries, we restrict our analysis exclusively to primary activities. This French survey is highly advantageous for our study, since information was gathered from both spouses for the same day, enabling us to capture how spouses allocate tasks between themselves and to take account of the possible overlaps between providers (joint time).

Our sample is made up exclusively of married or cohabiting couples with at least one child under the age of 15, with both partners filling in the diary (1,810 couples, or 3,620 parents). Sample characteristics are given in Table 1. As the parental links within the family are not sufficiently detailed to distinguish children from stepchildren, the term "parents" refers to the partners within the household. Even if the degree of investment in one's own children or one's step-children may differ, it is likely that the parental burden weighs on all adult members of the household, whatever the family relationship be. Moreover, Rappoport and Le Bourdais (2001) show that parental time differs very little between intact and reconstituted families.

3.2 Definition of Parental Time

Measuring parental time is a complex operation that depends not only on the quality of the information collected, but also on the accurate delimitation of activities dedicated to children. Two kinds of measures are used in the literature: an extensive measurement, the total time spent with children, and a restrictive one, which concentrates on active time (see Gauthier et al. (2004) for an evaluation of the different definitions). Thus, time spent by parents on an activity not directly devoted to the children in their presence—when a parent prepares a meal, while the child is playing in the kitchen for example—is not taken into account. Likewise, family activities (leisure, discussions) are not necessarily counted as forming part of parental time.

⁷ Only 1 day diary was collected, on either a weekday or a weekend day. The response rate of this survey was 68.2%. Out of the 16,136 respondents, 95.7% filled in the diary.

Table 1 Sample description ($N = 1,874$ couples with children)

Variables	Mean	SE
Woman's activity status		
Employed full time	0.424	0.494
Out of labour force (OLF)	0.294	0.456
Unemployed	0.080	0.271
Part-time worker	0.202	0.402
Woman's education		
University (3+ years)	0.100	0.301
University (2 years)	0.146	0.353
Secondary	0.156	0.363
Vocational	0.382	0.486
Primary	0.216	0.411
Man's activity status		
Employed	0.912	0.283
Unemployed or OLF	0.088	0.283
Man's education		
University (3+ years)	0.131	0.337
University (2 years)	0.108	0.311
Secondary	0.106	0.308
Vocational	0.454	0.498
Primary	0.201	0.401
Man's social group		
Manual worker	0.393	0.488
Clerical or sales worker	0.102	0.303
Intermediate-level occupation	0.221	0.415
Manager	0.170	0.375
Farmer, tradesman	0.114	0.318
Number of children		
1	0.466	0.499
2	0.377	0.485
3 and more	0.157	0.364
Children age		
One at least under 3	0.284	0.451
One aged 3–10	0.650	0.477
Couple age		
Age difference	2.587	4.578
Mean age	37.472	6.393
Household income		
< 7000 francs	0.066	0.249
7000–10000 F	0.150	0.357
10000–14000 F	0.254	0.435
14000–17500 F	0.189	0.392
17500–21000 F	0.137	0.344

Table 1 continued

Variables	Mean	SE
21000–35000 F	0.153	0.360
> 35000 F	0.036	0.187
Unknown	0.014	0.117
Domestic help	0.086	0.281
Weekday	0.723	0.448

In this research, we use the restricted definition: parental time is defined as the total time given by parents to activities directly and exclusively aimed at the household's children. This definition makes it possible to measure the time effectively devoted by non-working persons to children in the additional time made available by joblessness. This approach avoids strictly mechanical time reallocations: unemployed persons who are more often at home may spend more time in the presence of children, without necessarily investing more of their time to activities devoted to their children.

Parental time is the sum of maternal and paternal times. Maternal time (respectively paternal time) is the time the mother (father) devotes to activities with her (his) child. Joint parental time is the time spent by both parents together doing activities with their children.

However, different types of parental activity do not involve the same constraints for the parents, nor do they have the same purpose. Some of them may be more pleasurable, may increase the prestige of the parent or may be more strongly linked to the child's well being (Zick and Bryant 1996), whereas others are more routine activities. Some take place at home, and others outside. Lastly, some require special competencies. Consequently, four types of parental time are defined following the typology of Barrère-Maurrisson and Rivier (2002):

- Care time (eating, washing, medical care at home and elsewhere, etc.), which is a routine activity centred around the home.
- Homework time, which is the activity that may be an investment in the future, since it acts on education. This time is calculated only for families with at least one child aged between 6 and 15, since homework is given from primary school.
- Social and leisure activities (conversations, reading, playing games at home or outdoors, artistic activities, sports, excursions), which are a fun quality time with children, involve a high level of interaction between parents and children, and are rewarding.
- Transportation time devoted to children also called “taxi parents” time. Though this time is mainly related to children's social and leisure activities, it is separated from them for two main reasons. First, “driving kids” is a more and more widespread activity because of an increase in sub-urbanisation and in perceived street dangers. Second, it tends to be a rather routine and unrewarding for the parents.

4 Methods

4.1 Measuring Substitution

To analyse substitution of time between partners, we compare the parental time of working parents with that of couples with one working and one non-working partner. Although our approach is not longitudinal and is based on cross-sectional time use surveys,⁸ it can serve as a heuristic device to identify transfers of time. It is assumed that once the maximum number of observable characteristics has been controlled for, people no longer differ except by their employment status. Since the main determinants of employment status (educational level, age) are introduced in the multivariate analysis, the main heterogeneity is reduced, and the “pure” effect of employment status is then captured.

The limits of this approach are inherent to the available dataset. In this work, time with children is analysed from the parents, and not the children’s, point of view. For instance, there is neither information on the time devoted per child, nor information on the ‘quality’ of time. Thus, we cannot measure if the parents correct each other’s parenting. Moreover, by focusing on transfers between partners, transfers towards non-parents (other relatives, nannies or other household members) are hidden. Van Dijk and Siegers (1996) underline that non-parental care is used much more as an alternative for the mother’s care than the father’s. This externalisation of parental tasks may be a result of the non-substitution of time between partners.

We define two different non-working statuses for women: unemployed and Out of Labour Force (OLF). We use the standard definition of unemployed people, i.e. unemployed women reported that they were looking for work and had applied for a job recently.⁹ Out of Labour Force women were not looking for a job: they were students, homemakers or retirees.¹⁰ We distinguish between these two statuses for women because they may have chosen to be a homemaker in order to raise their children, whereas unemployment was more linked to labour demand. This distinction is not made for men because very few fathers are out of labour force (18 in our sample).

4.2 Estimating the Model

The joint estimation of men and women’s parental time raises three main econometric problems. The first is the fact that parental time is often equal to zero on the day of the interview (55% of fathers and 21% of mothers). This specific distribution, i.e. excess weight of an extreme value, causes biases if the usual linear regression models are used. A Tobit model gets around this problem by modelling

⁸ Longitudinal time use surveys do not exist.

⁹ Individuals between two jobs are included as unemployed if they reported looking for a job.

¹⁰ We considered people on leave for more than a month (maternity leave, parental leave, etc.) as out of labour force because they had, for the time being, more free time to devote to children as they were temporarily not working.

both the participation (or non-participation) in parental tasks on the day the diary was filled in, and the time spent doing these tasks.

A second problem is the possible endogeneity of the unemployed. It is easy to imagine a situation where a parent, wishing to spend more time with his/her children, decides to leave the labour force for example. This introduces a bias. Though the endogenous nature of the situation on the labour market seems obvious with regard to inactive individuals, since their situation may be the result of a decision to leave the labour force to cope with an increase in household duties, for instance, it is not as clear with regard to the variable we are interested in here, i.e. unemployment, even if it remains a possibility. As shown by the answers to the specific questions put to the unemployed in the survey, the fact that an individual is unemployed does not seem to indicate a deliberate choice to devote more time to domestic work rather than to income-generating work. The unemployment rate stands at a high level in France: 12.2% in 1998. In our sample, the average duration of unemployment is 20 months for men, 23 months for women, which indicates a relative shortage of jobs. Three-quarters of the unemployed reported having looked for work over the last 3 months, 70% had sent at least one application (50% had sent more than five) and 88% were ready to accept a job beginning in the next 2 weeks. In spite of broader eligibility for unemployment benefits compared with other developed countries,¹¹ the replacement rate and above all the digression rate, make unemployment unattractive compared with employment.¹² For all these reasons, we assume that French unemployment is mainly involuntary, and hence, not endogenous.¹³

Lastly, the parental time of women and that of men can be interdependent, making it necessary to estimate jointly paternal and maternal time. The bivariate Tobit model (Maddala 1999) estimates the parental time of both partners simultaneously, taking possible interdependent factors into account.¹⁴

We define y_h and y_f as, respectively, the observed parental times of the man and the woman, y_h^* and y_f^* as the associated latent variables. Observed parental times (y_h and y_f) are likely to suffer from an “excessive-zeros” problem. We assume that y_h^* and y_f^* are determined by the following equations:

¹¹ 2/3 of unemployed men and 60% of unemployed women in our sample receive unemployment benefit.

¹² The replacement rate is 40.4% of the previous daily wage, plus a fixed amount (9.56 euros), or 57.4% of the “reference daily gross wage”. The digression rate is 17% every 6 months. Unemployed people are not entitled to unemployment benefit if they quit their job.

¹³ We attempted to take the heterogeneous nature of unemployment into account to control for its possible endogeneity. We carried out tests using different definitions for unemployment, based on its duration (long-term or short-term unemployment), active efforts to find employment (Were job applications made over the previous three months or not? Was time spent looking for a job on the day of the survey?). The results remain the same regardless of the specifications chosen, but as the size of the unemployed category falls, the significance thresholds increase. That is why we chose to use the “declared” definition, i.e. the widest.

¹⁴ For other applications of this model, see for instance Doiron, D. and Kalb, G., 2005, “Demands for Child Care and Household Labour Supply in Australia”, *Economic Record*, 254: 215–236, or Neuman K. D. and Lawson D. M., 2005, “The Distribution of Retirement Leisure”, Papers and Proceedings of the Labor and Employment Relations Association, Available at <http://www.users.drew.edu/dlawson/research/lera.pdf>.

$$y_h^* = \beta_h x_h + \varepsilon_h \quad \text{and} \quad y_f^* = \beta_f x_f + \varepsilon_f$$

where ε_h and ε_f obey a normal two-dimensional law with $E[\varepsilon_h] = E[\varepsilon_f] = 0$ and $\text{Var}[\varepsilon_h] = \sigma_h^2$, $\text{Var}[\varepsilon_f] = \sigma_f^2$, $\text{Cov}[\varepsilon_h, \varepsilon_f] = \rho\sigma_f\sigma_h$. ρ is the correlation coefficient.

Four separate cases can be defined: both parents have a parental time exceeding 0 (case 1), only one parent has a parental time equal to 0 (cases 2 and 3), or both parents have a parental time equal to 0 (case 4).

Then the total likelihood is:

$$\begin{aligned} \mathfrak{L} = & \prod_1 f(y_h - \beta_h' x_h, y_f - \beta_f' x_f) + \prod_2 \int_{-\infty}^{-\beta_f' x_f} f(y_h - \beta_h' x_h, \varepsilon_f) d\varepsilon_f \\ & + \prod_3 \int_{-\infty}^{-\beta_h' x_h} f(\varepsilon_h, y_f - \beta_f' x_f) d\varepsilon_h + \prod_4 \int_{-\infty}^{-\beta_h' x_h} \int_{-\infty}^{-\beta_f' x_f} f(\varepsilon_h, \varepsilon_f) d\varepsilon_f d\varepsilon_h \end{aligned} \quad (3)$$

where \prod_i denotes the product over all observations in case i , and f the density bivariate function of normal distribution.

An individual's market work is expected to reduce his/her time spent with children. If the mother's and the father's parental time substitute, we would expect the father's parental time to increase if the mother works, while the father is unemployed.

4.3 Variables

The dependent variables are the "net" maternal and paternal time, i.e. the time spent alone with the children (log of the number of minutes). The variables of interest are the dichotomous variables related to the employment status of each partner: woman employed full-time, non-working man, unemployed woman, OLF woman. People in full-time employment are used as the reference group.

We control for the number of children in the household, the children's ages and for the day of the week, since parental childcare allocation may be very different on weekends and weekdays (Yeung et al. 2001). The partner's level of education also has an impact on the individuals' attitudes and values, with a higher level of education encouraging a more egalitarian division of tasks (Hersh and Stratton 1994). Furthermore, if better educated parents are well informed on the positive impact of parental time on their children's development, it can be assumed that the most highly educated parents spend the most time with their children. Nevertheless, the impact of parents' education on parental time depends on how educated parents value children relative to other sources of income. The average age of the couple makes it possible to measure changes in attitude from one generation of couple to another, with younger generations adopting a less traditional division of tasks and placing a greater value on time spent caring for children. According to non-cooperative bargaining models, the age difference between partners may indicate an

Table 2 Parental times (hours and minutes per day)

	Mean time	Std. dev.	Zero	% Participation	Mean time of participants	No. of participants
Parental time	2 h 07	2 h 01	325	82	2 h 35	1505
Father's parental time	0 h 31	0 h 54	1018	44	1 h 10	829
Mother's parental time	1 h 36	1 h 38	398	78	2 h 03	1438
Joint parental time	0 h 08	0 h 20	1462	19	0 h 19	762
<i>N</i>	1810					

Note: Data from the French Time Use survey (INSEE), author's calculation, OLF = out of labour force

unequal balance of power between spouses, with a strategic advantage in favour of the older of the two (Bozon 1991; Anxo et al. 2002).¹⁵ We also add the man's socio-occupational category, which is a crucial explanatory variable of social behaviour in France. For people who are unemployed or out of labour force, the French socio-occupational classification is based on the last job. The household income, which includes wages and non-work income from all household members, is added. It can be assumed that the time spent by the two partners on housework falls as income increases, insofar as high income levels make it possible to buy market substitutes for domestic production. However, regarding parental time, if the parents value the children more than they do leisure, parental time should increase alongside household income. We introduce a dummy variable representing the use of hired help for housework (8% of our sample hire a domestic help). Such a variable makes it possible to test whether or not there is substitution between domestic tasks and parental tasks when a market substitute is available for domestic production.

5 Results

5.1 An Uneven Investment in Parental Time, Depending on Gender and Activity Status

Parental time totals about 2 h per day: mothers spend 1 h and 36 min on average with their children, whereas fathers spend half an hour per day (see Table 2).¹⁶ These average durations conceal large differences between parents. Thus many parents, particularly fathers, do not allocate any time to their children on the day studied (22% of mothers, 56% of fathers).¹⁷ Participant fathers spend on average 1 h and 10 min per day with children.

Mothers and fathers generally perform their parental activities without their partner, and joint parental time is very limited, representing only 8 min per day on

¹⁵ Matrimonial legal status was tested, but was not significant, as was the case for Rapoport and Le Bourdais (2001) for Canada.

¹⁶ The estimates are weighted to ensure representativity of the sample.

¹⁷ If we consider fathers and mothers who participate in parental activities on the day studied, paternal time equals 1 h and 10 min, maternal time a little more than 2 h.

Table 3 Domestic times (hours and minutes per day)

	Mean time	Std. dev.	Zero	% Participation	Mean time of participants
Domestic time	542	250	1	100	542
Father's domestic time	174	162	212	88	196
Mother's domestic time	369	175	5	100	369
Joint domestic time	105	120	417	77	134
<i>N</i>	1810				

Note: Data from the French Time Use survey (INSEE), author's calculation, OLF = out of labour force

Table 4 Parental time by partners' employment status (hours and minutes per day)

	Both work	Father not working	Mother unemployed	Mother OLF
Parental time	1 h 48	2 h 15	2 h 20	2 h 34
Father's parental time	0 h 31	1 h 03	0 h 24	0 h 26
Mother's parental time	1 h 17	1 h 12	1 h 56	2 h 08
Joint parental time	0 h 07	0 h 13	0 h 07	0 h 08
<i>N</i>	1072	60	118	459

Note: Data come from the French Time Use survey (INSEE), author's calculation, OLF = out of labour force

average. This is partly due to the definition of parental time being linked with a particular task, often carried out by only one of the partners. Hence, only 19% of couples have joint parental activities on the day studied and they devote 19 min in average to them on that day.

Parental activities represent only about one quarter of total domestic time (domestic time totals 9 h a day in average, with fathers devoting 2 h and 54 min per day to domestic chores and mothers 6 h and 9 min (see Table 3)).

Parental time varies considerably depending on the partners' employment status (see Table 4). Parental time totals 1 h and 48 min on average when both parents work. It is higher when one parent doesn't work and exceeds 2 h per day on average. It totals 2 h and 15 min per day when the father doesn't work and the mother does, 2 h and 20 min when the father works and the mother is unemployed, and to 2 h and 34 min when the mother is out of labour force. Overall, the difference in total parental time between the non-employed and the employed parent is slightly higher when it is the mother who does not work, rather than the father (+46 min when she is OLF, +32 min when she is unemployed, +27 min when the father doesn't work). In others words, compared with children of dual-earner couples, children spend about half an hour more with their parents when the father or the mother doesn't work.

However, the duration of domestic time varies much more according to the parents' employment status than that of parental time. Compared with the situation where both parents work, domestic time gains more than 2 h when the man doesn't work, 1 h and 57 min when the woman is unemployed, and 2 h and 19 min when she is out of the labour force (see Table 5). So, although not working leads to an

Table 5 Domestic time by partners' employment status (hours and minutes per day)

	Both work	Father not working	Mother unemployed	Mother OLF
Domestic time	7 h 59	10 h 07	9 h 56	10 h 18
Father's domestic time	2 h 54	5 h 14	2 h 25	2 h 24
Mother's domestic time	3 h 05	4 h 53	7 h 31	7 h 55
Joint domestic time	1 h 37	2 h 23	1 h 46	1 h 40
<i>N</i>	1072	60	118	459

Note: Data from the French Time Use survey (INSEE), author's calculation, parental time is excluded from domestic time, OLF = out of labour force

increase in total domestic time, parental time does not necessarily benefit from this increase. Indeed, children are not always available to be looked after by their non-working parents. French children spend many hours at school, with school hours running from 8.30 to 16.30 for children aged 3–12 (and with care facilities provided before and after school hours from 7.00 to 8.30 and from 16.30 to 18.00–19.00). The secondary school day starts at 8.00 and ends at 18.00. Moreover, child care facilities are widely available for children under 3 years and the children of unemployed persons may be looked after in day-care centres open at least 10 h a day.

Despite the fact that not working provides a greater amount of free time, joint parental time does not vary substantially according to parents' employment status (see Table 4), except when the father doesn't work. Indeed, joint parental time is significantly higher when the father is not working (twice as much, +6 min¹⁸), whereas if the mother is unemployed, joint parental time equals that of dual-earner couples. Thus, it would appear that when the father doesn't work, the mother performs a share of the parental tasks with him rather than alone. It is possible either that the unemployed man chooses to help his partner with her usual tasks, or that the partner finds it difficult to hand over her parental tasks to her partner, and therefore, prefers to do them with him. This result may also be seen as a sign of partners "sticking closer together" within the family unit, in times of adversity. Nonetheless, this tendency is not noticeable when it is the woman who finds herself unemployed.

Regardless of the partners' employment status, mothers spend more time with their children than fathers. Thus, when both partners are employed, the mother accounts for 76% of parental time. Men in dual-earner couples generally do not adjust their time allocation to compensate for their wives' reduced time with the children. When the man doesn't work and the woman is in paid employment, she also participates more actively in parental tasks than her partner (the mother accounts for 53% of parental time), while her participation in other domestic tasks falls below 50% (she performs 48% of domestic chores, see Table 5). So it would appear that the gender division of work is even more apparent with regard to parental tasks than it is for other domestic tasks. The division of parental tasks is even more unequal when the woman is inactive and the partner is employed (she performs 83% of parental tasks).

¹⁸ The difference between the mean joint times when the mother is unemployed and when both partners are working is significantly positive.

Furthermore, the parental activity of mothers seems to be more regular, with three-quarters of working women in dual-earner couples reporting a parental activity on the reference day as opposed to less than half of the men from these couples. About 80% of unemployed women and 60% of non-working men carry out a parental activity on the day in question.

Compared with dual-earner couples, maternal time is a little lower when the father doesn't work (−5 min per day, see Table 3). Symmetrically, paternal time is slightly shorter when the mother is unemployed (−6 min per day) or OLF (−5 min per day in average). It seems that the unemployed/OLF partner relieves the working parent of certain parental duties. Does this mean that parental time is reallocated between partners when one parent doesn't work? Before answering that question, we will examine which type of tasks is more sensitive to employment status.

5.2 Unequal Time Allocation by Type of Parental Task

Care accounts for most parental time, regardless of the parents' employment status (see Table 6), representing over an hour of the parental time per day, i.e. more than half of the total. The remaining parental time is distributed between schoolwork, leisure and transportation, the former taking up slightly less time than the other two. Regardless of activity type, maternal time exceeds paternal time, with the exception of transportation when the father doesn't work. As is the case for other domestic

Table 6 Parental time by tasks and partners' employment status (hours and minutes per day)

	Mean	Both work	Father not working	Mother unemployed	Mother OLF
Care					
Total	1 h 15	1 h 03	1 h 16	1 h 19	1 h 35
Men	0 h 14	0 h 15	0 h 33	0 h 11	0 h 10
Women	0 h 01	0 h 48	0 h 43	1 h 08	1 h 25
Schooling time ^a					
Total	0 h 16	0 h 15	0 h 17	0 h 18	0 h 17
Men	0 h 04	0 h 03	0 h 07	0 h 02	0 h 05
Women	0 h 12	0 h 11	0 h 10	0 h 16	0 h 12
Social and leisure activities					
Total	0 h 19	0 h 17	0 h 30	0 h 22	0 h 21
Men	0 h 09	0 h 07	0 h 15	0 h 09	0 h 08
Women	0 h 11	0 h 09	0 h 15	0 h 13	0 h 13
Transport time					
Total	0 h 21	0 h 17	0 h 18	0 h 28	0 h 26
Men	0 h 05	0 h 05	0 h 10	0 h 03	0 h 04
Women	0 h 15	0 h 12	0 h 08	0 h 25	0 h 23
<i>N</i>	1810	1072	60	118	459

Note: Data from the French Time Use survey (INSEE), author's calculation, OLF = out of labour force

^a For families with at least one child between ages 6 and 15 (1,376 observations)

activities, gender-distinct practices exist with regard to parental time: “domestic” parental time is more likely to be feminine, while fathers invest more in the social sphere.

All types of parental time are longer when one parent doesn’t work, except for schooling time, which does not vary according to the parents’ employment status. However, compared with employed people, the time spent on leisure activities by non-working men is higher than for non-working women (respectively +8 and +3 min), whereas non-working women spend more time on childcare and transportation. Unemployed women spend 20 min more per day on care than working women (OLF women 37 min more), while non-working men devote 18 min more than employed men. They respectively devote 14, 11 and 5 min more on transportation for children.

For all activities except for social and leisure activities, working women’s maternal time is slightly lower when the father doesn’t work (–5 min per day for care, –2 min for schooling time and –4 min for transportation compared with women’s time in dual-earner couples, see Table 6). Symmetrically, paternal time for these three activities is a little shorter when the mother is unemployed (respectively, –5 min, –1 min and –2 min). Does this mean that the unemployed partner relieves the other partner of part of the time allocated to various parental activities, except for leisure time, which increases for both partners in the case of unemployment? Social and leisure activities are higher when the partner is not working. Thus, the time allocated by a working father to his children’s social activities is 2 min longer when his partner is unemployed, and that of working mothers is 6 min longer when her partner is out of work. The fact that one parent devotes more parental time to social activities seem to encourage his or her partner to participate, since these activities involve the whole family more often than not. Are both partners’ times complementary for this type of activity, whereas for other types of parental time they seem to substitute?

5.3 Parental Time by Number of Children

As expected, parental time increases with the number of children, but having a very young child (under the age of 3) is also an important factor. It increases considerably the parental workload, as found by Rapoport and Le Bourdais (2001) on Canadian data. Moreover, the bigger the family, the more the parents carry out parental tasks together. Unemployed people devote more time to parental tasks regardless of the number of children, but the difference appears to be sharpest when there is only one child.

Not only are there differences in parental time when one parent doesn’t work, but also time seems also to be reallocated between the partners. However, other factors, besides unemployment, can also influence parental time. To ensure that the analysis is performed independently of structural effects, we estimate the impact of unemployment on parental time, while controlling for individual and household characteristics.

5.4 Transfers of Parental Time

5.4.1 *Determinants of parental time*

The estimates of the bivariate Tobit model of maternal and paternal times (in log) are listed in Table 7. Initially, we observe that the correlation parameter of the model, ρ , is statistically significant, which indicates that parents' decisions about time for childcare are interdependent. This result corroborates the validity of using a bivariate Tobit model when studying the division of childcare between parents. We report the parameters, their standard errors and the marginal effects, which allow to compare the amplitude of the variables of interest with respect to the control variables.

Net parental time is not very dependent on the household's socio-economic characteristics: the educational level, income and socio-occupational category are not very significant explanatory factors of the time devoted to parental tasks, whereas for domestic time, they are significant (Brousse 2000; Zarca 1990). A possible reason is that the population of parents is more homogeneous: the lifestyles of couples with children are less different from one population to another than the lifestyles of couples without children. For instance, leisure time, which is strongly influenced by class and lifestyle differences, decreases with the birth of a child. Children require a minimum amount of care, which cannot be reduced or postponed, which is not the case for other domestic tasks. Furthermore, due to the emotional component of parental activities, parents are less likely to call upon market substitutes, no matter what their income is. Lastly, domestic tasks are more varied. For example, taking care of a garden or a house depends largely on personal tastes and preferences, and can be expressed in a more distinct manner through domestic time than is the case for parental time.

However, certain salient facts do appear clearly. Total parental time logically increases with the number of children, but only for women. The age of the children is more significant than their number. Thus, parents with at least one child under 3 years devote much more time to parental activities (22 min more for the father, 64 min for the mother). It is clear that children under 3 years also require more time because they need more care. Besides, older children require less specifically parental tasks, less direct and constant supervision. Yet the way the various activities were constructed by the Time-Use survey accentuates the importance of tasks oriented towards very young children (Algava 2002). Having a school-aged child (3–10 years) also increases both mother's (+39 min) and father's (+14 min) parental time. For any given number of children, the presence of children older than 10 tends to reduce the time the mother and father spend with the children. These children can help their younger siblings, thus relieving parents of part of their parental workload. This is in line with the results of Lefèvre and Merrigan (1999) and Rapoport and Le Bourdais (2001), who show using Canadian data that parental time falls as the children grow older.

The father's level of education and the social category have an impact on paternal time. As in many other studies (Yeung et al. 2001), men who have graduated from higher education tend to dedicate more time to parental tasks than non-graduates. So

Table 7 Paternal and maternal times (in log) (bivariate Tobit regression)

Variables (reference modality)	Bi-Tobit model					
	Paternal time			Maternal time		
	B^a	SE	Marginal effect	B^a	SE	Marginal effect
Activity status (FT worker)						
Woman OLF	-.670**	.291	-7.42	.659***	.201	23.76
Woman unemployed	-.468	.418	-5.18	.494*	.289	17.81
Woman PT worker	-.225	.280	-2.49	.161	.196	5.80
Man OLF	1.852***	.421	20.50	.235	.291	8.47
Children (1 child)						
3 children and more	.503	.355	5.57	.479**	.186	17.27
2 children	.227	.270	2.51	.663***	.246	23.90
Aged less than 3	2.020***	.294	22.36	1.772***	.206	63.89
Aged 3–10	1.234***	.290	13.66	1.093***	.197	39.41
Woman's education (secondary)						
University (3+ years)	.337	.449	3.73	.352	.322	12.69
University (2 years)	.243	.382	2.69	.026	.271	0.94
Vocational	-.334	.319	-3.70	-.373*	.223	-13.45
Primary	-.918**	.388	-10.16	-.615**	.266	-22.17
Man's education (secondary)						
University (3+ years)	1.230***	.501	13.61	.097	.354	3.50
University (2 years)	-.319	.451	-3.53	.205	.318	7.39
Vocational	-.273	.367	-3.02	-.114	.257	-4.11
Primary	-.877**	.441	-9.71	-.060	.304	-2.16
Man's social group (Clerical/sales worker)						
Manual worker	-.444	.365	-4.91	-.326	.259	-11.75
Intermediate-level occupation	-.199	.395	-2.20	-.191	.279	-6.89
Manager	-1.215**	.506	-13.45	-.214	.354	-7.72
Farmer, tradesman	-1.589***	.459	-17.59	-.025	.312	-0.90
Age difference between partners	.005	.023	0.06	.013	.016	0.47
Mean age of partners	-.081***	.022	-0.90	-.063***	.015	-2.27
Weekday	.072	.232	0.80	.908***	.161	32.74
Household income (< 14000–17500 francs)						
< 7000 F	-1.734***	.583	-19.19	-.323	.376	-11.65
7000–10000 F	-.134	.393	-1.48	-.023	.268	-0.83
10000–14000 F	.392	.320	4.34	.083	.222	2.99
17500–21000 F	.214	.370	2.37	-.064	.260	-2.31
21000–35000 F	.334	.398	3.70	-.584**	.280	-21.06
> 35000 F	.630	.664	6.97	-.398	.468	-14.35
Unknown	-1.855*	1.073	-20.53	-1.263*	.668	-45.54
Domestic help	-.186	.402	-2.06	.638**	.284	23.00
Intercept	2.404***	1.019	26.61	3.585***	.707	129.25

Table 7 continued

	Bi-Tobit model	
	Paternal time	Maternal time
Correlation of errors	0.245***	
Proportion of zeros	54.3%	21.2%
<i>N</i> (partnerships)	1874	

Note: Values in *italics* indicates time reallocation between partners; *** $p < .001$; ** $p < 0.01$; * $p < 0.1$ OLF, Out of labour force; PT, part-time job; FT, full-time job; *SE*, standard error

^a The parameter *B* is effect of each variable on the log of the latent variable of the model (Breene 1996)

the division of tasks appears to become less inequitable as the father's level of education increases. On the other hand, all other things being equal, men in managerial positions, and farm workers, artisans, trades people and business owners spend less time on parental activities. This separation can be explained by their longer working hours (usually having a negative impact on paternal time), probably accompanied by a different conception of men's and women's roles.

A generation effect can also be observed among the youngest couples, with the woman and man spending less time on parental activities. The age difference between partners does not have a significant effect, which is a sign that the division of labour does not obey a more traditional pattern if the man is older. The income effect is weak, but has a gendered effect. Only the lower household incomes tend to be associated with lower paternal involvement (-19 min), whereas higher household incomes tend to be associated with lower maternal involvement. The poorer the household, the less egalitarian are the couples in terms of parental task sharing. Recourse to domestic help has no impact on the father's parental time, but increases that of the mother by 23 min: we observe a substitution effect between women's domestic and parental tasks. Whereas for men, hired help has no significant impact on their domestic tasks either (Solaz 2005), for women, hired help for household tasks frees time, which may then be devoted mainly to the children. Women opt out of less important production tasks (housecleaning) to spend greater amounts of total home time with their children. There is an obvious substitution effect between parental and domestic times.

As observed for the United States (Sayer et al. 2004), mothers who complete the diary on a weekday spend more time in childcare relative to mothers who complete it on a weekend. This result is counter-intuitive, as mothers are expected to have more time available for their children on weekends. Sayer et al. (2004) and Gauthier et al. (2004) suggest an exchange of parental activities between partners during the weekend, as women do more of the weekday care. This explanation is not valid, as fathers do not significantly increase their participation on the weekends. An alternative explanation may be that mothers spend time with children on the weekends in activities that are coded as leisure time rather than direct childcare.

5.4.2 *The Unemployed Parent Spends More Time with Children*

Our variables of interest pertaining to the employment situation are influential for both men and women. Unemployed men and women participate more in activities with children, but the unemployment effect is not as clearly marked for women (coefficient 0.5 compared with 1.9 for men), because employed women already spend more time with their children than men with the same status. The marginal effects are comparable (+18 min for women and +20 min for men). This result points in the same direction as those on Swedish or Spanish data showing that a change in the number of hours worked by the mother has relatively less impact on parental time than a change in men's working hours. On the whole, our first hypothesis is confirmed: *due to the greater time availability, parental time increases*. This is particularly true for unemployed men.

5.4.3 *Low Transfers of Parental Time*

On the other hand, the employment status of one partner does not have much impact on the time spent by the other partner with the children. The unemployed man does increase his participation in parental tasks, but he does not seem to relieve his partner of part of her tasks performed with the child.¹⁹ Similarly, the fact that the woman is unemployed does not have a significant impact on the time devoted to children by the father. It should, however, be noted that in the man's regression, OLF mothers tend to slightly decrease working men's participation in parental time. If this is the case, then parental time is only transferable from men to women in the case of OLF mothers who have been absent from the labour market for a long period. Our second hypothesis is only partially confirmed: the substitution observed occurs only in traditional couples where the specialisation of tasks is very high. We do not observe it for a transitory situation such as unemployment. However, as expected, asymmetry of gender roles is observed.

We note that woman's part-time employment has no impact on parental time. One possible explanation for this is that, in France, part-time work is not necessarily chosen, and a large share of part-time jobs are imposed by employers because of organisational constraints.²⁰ Part-time contracts with split schedules (with shifts in the morning or late at night) or the atypical working hours of some jobs make it impossible to set aside time for domestic and parental activities. Women who choose part-time employment may take advantage of a lighter workload to organise the day in a more manageable way, and not necessarily to spend more time with the children.

In the light of these first results, it seems that parental time is not really substitutable. This is consistent with the results of Hallberg and Klevmarken (2003)

¹⁹ In the regression carried out for men, the coefficient of the variable man unemployed/working woman is significantly positive, whereas in the regression performed for women, the coefficient of this variable is not significantly different from zero.

²⁰ One third of women working part-time report in the labour force survey they would like to work full time.

on Swedish data, according to which parents do not substitute for each other in activities with their children, but rather complement each other. However, it is possible that parental time is too heterogeneous for the transfers that take place within the couple to appear at this level, so we differentiated parental time on the basis of the type of parental task carried out (cf. paragraph 6.3) in order to test our third hypothesis.

5.5 Substitution Based on the Type of Task

This section aims to study in greater detail how parental time is distributed among four main realms: care, schoolwork, social time and transportation. If, as observed, unemployed parents invest more time in parental duties, which realms are in fact preferred? Are some tasks more likely to be transferred from a working parent to a parent temporarily out of work? For each type of parental activity, we estimated a model, which is identical to that presented previously. Table 8 lists the results concerning our variables of interest.²¹

It clearly emerges that when a man is unemployed, his participation in care, leisure and transportation tasks is higher. Woman's unemployment (or inactivity) only affects the time allotted to care activities and, to a lesser extent, transportation time. Once more, whatever the parental task, fathers' unemployment has a greater impact on their own involvement than mothers' since fathers' initial investment is lower (parameters are greater and more significant). School time is not affected either. Habit (being used to doing homework with the same person every night) and/or competence (only one partner may be capable of helping the children) make it more difficult to transfer this task from one parent to the other in times of unemployment. Furthermore, the quantity of school time is not elastic enough to be perceptible, even if the sub-sample is restricted to couples with school-age children (from age 6).

Conversely, parental time transfers between partners are visible when one of the parents is unemployed. Unemployed women take over some care activities from their husbands, while unemployed men do not seem to take over this type of parental task. On the other hand, children's transportation time is substitutable. Indeed both men and women reduce the time their partner spends on this activity.

Thus, men take advantage of unemployment to participate in activities such as caring, in which they have little involvement when both parents are working, but they do not relieve their partner of these tasks. The fact that care activities are not substitutable may be explained by the lesser "productivity" of men in this type of task (it may take them longer to do them), but may be also explained by women's reluctance to be relieved of their maternal tasks in a situation where the traditional family pattern is reversed (the man at home and the woman working). According to

²¹ We controlled for the number and age of children, woman's and man's education, couple's mean age and age difference, domestic help, indicator of very low household income and day of the week. One covariate was dropped (man's socio-occupational category) and one was simplified (household income is henceforth a dummy) to help models to converge thanks to fewer non-zero values of parental time for each realm. The results of the complete set of estimates can be obtained from the authors.

Table 8 Paternal and maternal times (in log) by type of task (bivariate Tobit model)

Activity status	Care time		Schooling time ^b				Social and leisure activities				Transportation time					
	Men		Women		Men		Women		Men		Women		Men		Women	
	<i>B</i> ^a	SE	<i>B</i> ^a	SE	<i>B</i> ^a	SE	<i>B</i> ^a	SE	<i>B</i> ^a	SE	<i>B</i> ^a	SE	<i>B</i> ^a	SE	<i>B</i> ^a	SE
Woman (ref: Full time worker)																
Out of labour force	<i>-1.425***</i>	.373	.860***	.265	<i>-0.059</i>	2.121	2.639	2.828	.563	1.064	1.832*	1.093	<i>-2.204**</i>	.884	1.268	.899
Unemployed	<i>-1.127**</i>	.542	.687*	.390	<i>-3.455</i>	3.765	5.943	4.205	2.902*	1.491	1.368	1.599	<i>-2.115†</i>	1.323	2.032	1.309
Part time	<i>-.567†</i>	.368	.055	.275	<i>-2.69</i>	2.257	2.028	2.790	0.363	1.106	<i>-2.09</i>	1.139	<i>-.309</i>	.833	.683	.922
Man (ref: worker)																
Unemployed	1.819***	.546	.549	.393	1.682	3.371	1.853	4.229	4.161***	1.561	2.534†	1.662	3.427***	1.225	<i>-2.395*</i>	1.394
Proportion of zeros	71.2%		30.9%		92.2%		75.5%		84.3%		78.7%		84.7%		65.2%	
Correlation of errors	0.283**				0.345***				0.483***				0.383***			

Note: Values in italics indicates time reallocation between partners; ****p* < .001; ***p* < .01; **p* < .10; †*p* < 0.13. Tobit regressions controlled by children number and ages, woman and man's education, couple age mean and difference, domestic help, indicator of very poor household income and week day. SE, standard error

^a The parameter *B* is the effect of each variable on the log of the latent variable of the model (Breene 1996)

^b For families with at least one child between 6 and 15 years old (1,376 observations)

Sandberg and Hofferth (2001), mothers place a high value on the time devoted to activities with children and it receives priority over other demands. Cultural factors, and particularly the strong social pressure that allocates child raising to women, can, in part, explain this behaviour. For instance, in France, the implicit social norm is for mothers to take parental leave, so very few fathers take such leave. Likewise, childcare personnel are almost exclusively feminine.²² The role theory explains this specialisation of women in child raising tasks by the substantial social rewards they receive when they participate in mothering, whereas men receive much fewer such rewards for fathering (Van der Lippe 1994).

Transportation activities, which happen outside the home, may help unemployed people create new social links, at a time when their lives are directed towards the interior. The appreciation index about different household tasks according to the employment situation is illustrative.²³ There are no large differences in the appreciation of tasks between working and unemployed people, except for shopping. Indeed, this activity (the only one on the list that requires leaving the house) is considered to be a “chore” by 34% of working men and 38% of working women, whereas only 16% of unemployed men and 25% of unemployed women consider it as such. It is considered “pleasurable” by 32% of unemployed men and 19% of unemployed women, as opposed to 17% of working men and 13% of working women. This may be why they are easily substitutable between partners in case of unemployment.

The most highly valued tasks, such as education and leisure time, remain unchanged by unemployment. These activities, which are the expression of a long-term investment in human capital, are tasks that the parents hold on to, even when their partner has more free time. For leisure, the spouse of the unemployed woman increases his participation. Symmetrically, when the man is unemployed, his spouse increases her leisure time with children.²⁴ This result indicates that this sort of parental time is a relatively complementary good, in which both partners want to invest. Unemployment may involve more social and leisure time with both parents.

The presence of a non-working parent results in a reorganisation of parental time. The only substitutable activities are transport time and care time, and for care, this substitution is not symmetrical. Social activities are not substitutable, they are more likely to be complementary.

Our third hypothesis is invalidated: *there is no substitution for the more status-enhancing activities*. Indeed, the substitution occurs for the more routine activities such as care and transportation, but is not observed for schooling time. What's more, the partner of the unemployed parent increases social and leisure activities to spend more time with the family. In any case, children of unemployed people spend more time with their parents, especially with their unemployed father.

²² This orientation is clearly illustrated by semantics, as home child carers are known as “*assistantes maternelles*” and nursery schools as “*écoles maternelles*”.

²³ The question asked was “*Do you consider this task mainly as (1) a chore (2) a task which you do not mind doing (3) a pleasurable activity*”.

²⁴ In this case, the level of significance is 13%.

6 Conclusion and Discussion

This article focuses on a specific type of time, which forms part of domestic time, i.e. parental time. It addresses the question of whether parental tasks can be substitutable between parents, taking as example, the situation when one of the parents is unemployed.

The first observation is that despite high female labour force participation, the gender division of work is considerable. It is even more apparent with regard to parental tasks than for other domestic tasks. The gender division of parental tasks in France is higher than in Sweden, a country which more explicitly fosters gender equality. This result is consistent with the numerous studies that suggest that the rise in maternal employment over time has not led to significantly reduced maternal time, in the United States as in Europe.

Second, like in the other European countries, one part of the reduction in a parent's number of working hours is transferred to caring for children: French unemployed men and women spend more time with their children. However, due to children's fixed schedules (time spent in school, sleep), the increase is rather limited, compared with the increase in the time devoted to other domestic activities. The fathers who devote the most time to their children are highly educated fathers of young children. Conversely, fathers belonging to very poor households spend little time with their children.

Third, parental time is only very partially substitutable when a parent becomes unemployed. Even when the unemployed parent devotes more time to the children, his or her partner's parental time does not significantly decrease. Furthermore, the least valued tasks (care time and transportation) are the most easily transferred from one partner to the other, when one parent doesn't work. Conversely, the most socially prestigious tasks and those involving an educational role (school and social time) are less easily left to a partner, even if the partner in question has more free time available. Finally, the transfer remains asymmetric in almost all cases: men are more willing to abandon—or women to take over—their activities with their children, than the opposite. These results are consistent with those found in Sweden and Spain, the rare countries where such a study has been conducted. So, whatever the welfare state regime and the level of fertility, the division of childcare still strongly depends on gender norms, even if they are less pronounced in Sweden.

It seems that each partner wishes to hold on to his or her parental activities, even if the other partner has more time to devote to them and does spend more time on them. These limited transfers confirm that parental time is not an ordinary domestic task; it is doubtlessly more pleasurable, at least less troublesome and more highly valued than other tasks. It also represents an investment of human capital in a common good, the child. A partner's participation in parental activities may thus reflect his or her desire to contribute to the child's education. Social norms, which allocate child raising primarily to women, explain in part, these low transfers of parental time. Finally, one can advance that the participation in parental time may contribute to the mother's or father's power of negotiation. Leaving childcare to the other parent may mean losing one's authority, one's right to intervene in the child's

education, and forsaking that right reduces one's power of negotiation not only in the present, but also in the future, in the event of divorce or separation.

If we assume that the specific situation where one parent is unemployed may be generalised to other situations that influence transfers in parental time between partners, one can conclude that transferability of parental time is limited. In that case, in order to avoid increasing the asymmetry between mothers and fathers' childcare, family policies that affect parental time should be targeted on fathers. For instance, *paternal* leave policies should be extended.

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