

# **Gender disparities in housework over the long run: A comparative analysis of France, the Netherlands, the UK and the United States**

(first draft)

**Ariane Pailhé, Anne Solaz, Clara Champagne**

**Ined**

## **Abstract**

Individuals' use of time has dramatically changed across the last decades in most industrialized countries. However, women still perform the bulk of non market work. This paper addresses two main questions. Firstly, what change is observable in the patterns of men and women's time spent in housework and childcare over the past 3 decades in France, the Netherlands, UK and the US? Secondly, which factors play in favor or against the gender gap in housework and parenting? Is it changes in family structure, changes in labor force participation, and or social changes and changes of norms? There is a slight decrease of the gender housework time gap over time, mainly due to the decrease of female participation in domestic tasks. Decomposition analysis shows that these trends are due to changes in practices rather than changes in population structure.

At the beginning of the new millennium, women still performed the bulk of domestic and parental tasks in all developed countries (Lachance-Gzela & Bouchard, 2010; Sayer, 2010). In spite of the increase in women's participation to the workforce, and therefore the generalization of dual-earners couples, huge gender inequalities on housework have persisted over time. Is equal sharing of domestic work an utopian goal that cannot be reached? Or are the changes of norms and behaviors slow to adapt to massive changes in the labor market? The answer might be quite different whether we consider only housework activities or childcare activities.

On the one hand, women's dramatic decline in housework was not compensated for by men's higher involvement in unpaid work. Hence, the relative share of housework (excluding childcare) done by women has been decreasing, this reduction being mainly due to a decrease of the time spent by women on unpaid work, rather than by an increase in male participation (Chenu, 2002) that was stable or has evolved very slowly over time.

On the other hand, parental time has increased significantly over the last few decades in many countries, for women to some extent, but especially for men, and the gender gap in childcare has been substantially reduced (see Gauthier, Smeeding and Furstenberg, 2004 for Canada; Sayer, Bianchi and Robinson, 2004; or Bianchi, 2000 for the United States; Fisher, Mc Culloch and Gershuny, 1999 for Great Britain; Bittman 1999 for Australia).

This gender division of labor persists in all of the industrialized countries, with different order of magnitude according to national context (Anxo et al, 2012). Housework and childcare are not only influenced by individual and family characteristics, but also by macro level factors such as economic development, welfare regimes and cultural norms; Neilson and Stanfors, 2014). Women do less housework in countries with higher levels of female full-time employment, greater provision of publicly funded childcare, shorter maternal leaves and more equalitarian gender values (Fuwa, 2004; Hook, 2010). Analyzing differences across countries helps understanding overall gender inequalities in housework (Bianchi et al., 2012).

Over the last three decades, developed countries have undergone huge structural changes that have affected the gender division of housework, at different paths and levels. One major change in the labor market is the continuous increase of female labor force participation. The number of unemployed people due to economic hardship and industrial restructuring has also increased. The population structure has evolved with the increase in the number of retired people due to the population ageing, the increase of individuals living alone, or the reduced size of families. There also have been huge changes in individual preferences, gender norms and attitudes.

This paper analyzes the trends of the gender gap in domestic work. The aim of this study is twofold. First it intends to describe the long term changes of male and female involvement in housework and parenting in developed countries. Second, it aims at disentangle factors in favor or against the gender gap in housework and parenting, i.e. changes in family structure, changes in labor force participation, social changes and changes of norms. Comparing four countries with different cultural norms, levels of female labor market participation and composition of families, i.e. France, the Netherlands, the UK and the US, allows better assessing how macro level factors act upon the gender division of labor. Evaluating the evolution of time spent on domestic and parental activities in the long term helps to understand what is hindering and driving the housework gender gap and finally to answer the key questions whether we are on the slow road to equal sharing or whether men have reached the glass ceiling of participation, a to housework.

This paper is an update and an extension of the seminal paper of Bianchi et al. (2000) that assessed trends in housework in the US between the mid-60s and the mid-80s. First, we analyze the trends over the past 25 years, between the mid-80s to the beginning of the 2010s, using repeated time use surveys and the most recent data available. Second, we expand the study to four countries in order to analyze the role of state public policies and gender relations in the evolution of gender household gap. Third, we analyze childcare as a separate category, since there have been huge changes in the norms regarding parenting over the last decades.

## **1. Previous studies**

[To be developed]

## **2. National context**

The four countries selected, i.e. France, the Netherlands, the United Kingdom and the United States belong to different welfare state regimes, and have different labor market regulations, family and work life reconciliation policies (table 1).

[to be developed]

**Table 1: Key figures for France, the Netherlands, the UK and the USA**

	France	Netherlands	UK	USA
<b>Labor market</b>				
Average usual weekly hours worked on the main job (2011)	38.0	30.5	36.4	na
Average annual hours actually worked per worker (2012)	1479	1381	1654	1790
Female labor force participation rate (age 15-64, 2012)	66.7	73.3	71	67.6
Part-time employment rate (2012)	13.8	37.8	24.9	13.4
<b>Gender relations</b>				
Rank Gender empowerment measure (2006)	17	6	14	18
Rank of Global gender gap index (2012)	57	11	18	22
<b>Welfare regime</b>				
Participation rate in childcare and pre-school services among children aged 0-5 years (% , 2010)	48.0	60.6	42.0	43.2
Public spending on family benefits in cash, services and tax measures, in % of GDP (2009)	3.98	2.48	4.22	1.22
Maximum length of leave for women (maternity + parental leave)	159	42	65	12
Paternity leave (weeks of entitlement)	2	0.4	2	0
<b>Demography</b>				
TFR	2.00	1.76	1.97	1.89

Source: OECD family database, OECD employment database, World Economic Forum The Global Gender Gap Report 2012.

### 3. Data and method

#### 3.1. Data

Time-use Surveys represent the most reliable source of information to measure time and to make cross-countries comparisons (Juster and Stafford, 1991). They use the time diary technique, whereby individuals report their time-use during 24 hours, providing extremely detailed information on the activities performed during that day. Besides the diary, all the data sets contain rich sets of information on the background and socio-economic situation of individuals and households. We select 2 surveys for each country, one for the mid-1980s and one for the 2010s (see table 2) and use original databases<sup>1</sup>.

The first French survey used was conducted in 1984-85. All household members aged 15+ completed a daily diary based on based on a grid of 5 minute-intervals of time, with a description of the main

<sup>1</sup> We do not use the Multinational Time Use Study, that archive time use surveys because some key variables were absent. Moreover, newest or oldest data files were not available.

activity carried out by the respondent and if need be a secondary activity. The protocol for the survey implemented in 2009-10 was a bit different. Only 2 household members aged 11 + at the most were interviewed and they filled a diary for both a weekday and a week-end day. The time slot was extended to 10 minutes.

For the Netherlands, time use surveys for 1985 and 2005 are used. The same survey protocol was adopted in both cases: all persons aged 12 and more in sampled households were asked to complete one week diaries. The diaries were divided into 15 minute time slots and respondents selected activities from a provided list of 274 activities.

The first British survey we use dates back to 1983-84. All household members aged 14+ were asked to complete a 7 day diary using a 15 minute time slot, specifying main activity and secondary activities. The second British survey we use was conducted over four seasons of 2005. One person aged 16 or older was selected for the interview and the one-day diaries using 30 precoded activities and 10 minute time slots. Again, both main and secondary activities were collected.

Finally, the American's Use of Time survey collected through mail-back, telephone interview or personal interview single 24-hour calendar day diaries for all household members aged 12+ for the whole 1985. All diaries included columns for the starting and ending time of main and secondary activities. Data for 2010 come from the ATUS. 1 household member aged 15+ was interviewed by telephone and gave the starting and ending time of main activity.

**Table 2: National time use surveys**

	France		Netherlands		United Kingdom		USA	
Survey period	1985-86 (6 waves during 8 weeks)	2009-10	October 1985	October 2005	November 1983, - February 1984	2005 (4 waves during 2 months)	Whole of 1985	Whole year of 2010
Collector	Office for National Statistics (Insee)	Office for National Statistics (Insee)	Sociaal en Cultureel Planbureau	Sociaal en Cultureel Planbureau & United Fieldwork Organisation	SCPR, University of Bath, University of Sussex	Office for National Statistics	Survey Research Center, University of Michigan	Bureau of Labor statistics
Diaries	1 daily diary	1 or 2 daily diary (1 week-day, 1 week-end day)	1 weekly diary	1 weekly diary	1 weekly diary	1 daily diary	1 daily diary	1 daily diary
Time slot	5 min	10 min	15 min	15 min	15 min	10 min	Free	Free
Respondents	Max 2 household members aged 15+	Max 2 household members aged 11 +	All household members aged 12+	All household members aged 12+	All household members aged 14+	1 household member aged 16+	All household members aged 12+	1 household member aged 15+
Number of completed diaries	16,062	27,903	3,263	2,204	9,366	4,834	5,358	12,564

Response rate	n.a.	57%	54%	37%	51%	56%	55%	56%
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The four surveys present some differences in the sample design, the existence and number of pre-coded activities, the length of the time slot and the number of daily diaries which make them not fully comparable. However, these methodological differences should not be a source of significant bias in our analysis since time diaries data is generally robust to variation in data collection (Sayer, 2010). In particular, coding of the two groups of activities we concentrate on is very similar across countries and over time. Time devoted to housework includes the full range of domestic chores. The domestic tasks include cooking, dishwashing, laundry, ironing and clothes care, cleanup and maintenance indoors and outdoors, home repairs, gardening, shopping, bookkeeping and administrative tasks, care for adult family members.

Time devoted to childcare includes activities directly aimed at household's children: physical care (e.g. minding, feeding, washing), help with homework, interactive childcare (e.g. reading, conversations, playing, sports) and transports devoted to children. Domestic and parenting time is calculated from the main activities reported by individuals in diaries. In France, two diaries per individual were filled in 2010, one for a weekday and one for a weekend day. In order not to over-represent the days of weekend and harmonize with previous survey, only one of the two books is randomly selected for 2010, with a probability of 5/7e for weekdays. For the Netherlands, only weekly duration are available; thus average times per day are computed by dividing individual weekly times by 7.

For the purpose of this article, we select for each country a sample of men and women in working age (18-60) who completed a diary of activity, belonging to one-family household. Individuals older than 60 years were excluded because of their specificity in terms of employment status (retired in vast majority), generation, and family structure (usually alone or couples without children). More and more numerous over the investigations, they strongly influenced the reading of global developments. Analysis of parental time concerns only individuals living with at least one child under 18 years in the household. The size of different samples is reported in Table 3. Descriptive statistics and models are weighted to account for population distribution.

**Table 3: Sample size**

		Aged 18-60		Aged 18-60 with child(ren)	
		Men	Women	Men	Women
<b>France</b>	<b>1985</b>	5,740	6,585	3,867	4,473
	<b>2010</b>	8,312	9,574	4,533	5,484
<b>Netherlands</b>	<b>1985</b>	1,060	1,391	517	822
	<b>2005</b>	659	849	302	371
<b>USA</b>	<b>1985</b>	995	1,155	455	520
	<b>2010</b>	4,123	5,040	2,164	3,156
<b>UK</b>	<b>1983</b>	2,674	4,137	1,504	2,407
	<b>2005</b>	1,437	1,762	456	838

### 3.2. Method

To take into account the structural changes in the population over time, the decomposition proposed by Blinder-Oaxaca (1973) for decomposing the gender wage gap between two populations can be easily extended to the decomposition of change of housework time between two dates. We decompose for each country and gender the mean difference between the dates (here 2010 and 1985 for example).

This method is based on the classical linear regression model where we set for the year 1985:

$$T_{1985,i} = \beta_{1985,i}X_{1985,i}' + u_{1985,i}$$

The outcome variable  $T_i$  is the daily domestic (resp. parental time) of individual  $i$ ,  $X_i$  the vector of exogenous independent variables and  $\beta_i$  the parameter vector associated with the independent variables,  $u_i$  are errors terms assumed to be normally distributed with mean 0 and variance  $\sigma_i^2$ .

The decomposition consists in simulating an average time (domestic or parental) by using the structure of the population of one date and, by assigning the return of observable characteristics as estimated for the other date. This counterfactual time  $\bar{X}'_{1999}\beta_{1985}$ , corresponds to the time that would be spent to domestic chores in 1985 if the sociodemographic structure of the population would be that of 1999. The change in domestic (or parental) can be written:

$$\bar{T}_{2010} - \bar{T}_{1985} = \beta_{1985}(\bar{X}_{2010} - \bar{X}_{1985})' + \bar{X}'_{2010}(\beta_{2010} - \beta_{1985})$$

The procedure divides the raw difference in time into two parts: an “explained part”,  $\beta_{1985}(\bar{X}_{2010} - \bar{X}_{1985})'$ , that is the part of the raw time gap explained by differences in observed characteristics (i.e.

human capital indicators, individual and household characteristics and job-related variables) between the two dates; and an “unexplained part”,  $\bar{X}'_{2010}(\beta_{2010} - \beta_{1985})$ , that is the part of the raw time gap explained by the difference in returns over time, due to the changes of propensity to do housework for a given characteristic.

The “explained part” can be decomposed in order to highlight the contribution of each set of explanatory variables  $j$ :

$$\beta_{1985}(\bar{X}_{2010} - \bar{X}_{1985}) = \sum_{j=1}^J \beta_{j,1985}(\bar{X}_{2010,j} - \bar{X}_{1985,j}).$$

The "unexplained part" can also be broken down accordingly, thus highlighting the change in return between dates for each variable:

$$\bar{X}'_{2010}(\beta_{2010} - \beta_{1985}) = (\beta_{2010,0} - \beta_{1985,0}) + \sum_{j=1}^J \bar{X}_{2010,j} (\beta_{2010,j} - \beta_{1985,j}).$$

$\beta_{j,1985}(\bar{X}_{2010,j} - \bar{X}_{1985,j})$  represents the contribution of the variable  $j$  to the “explained part” of the time change, and  $\bar{X}_{2010,j}(\beta_{2010,j} - \beta_{1985,j})$  represents its contribution to the "unexplained part".

$(\beta_{2010,0} - \beta_{1985,0})$  corresponds to the effect due to the intercept of the model, that includes in the case of dummy variables picks up the change over time in the return of individuals in the reference category. The choice of reference category therefore affects the results on the details of the "unexplained part".

The choice of the reference year in the definition of counterfactual time is not trivial. Here we preferred the first date as a reference point. Then, the "explained part" is interpreted as the evolution of parental and domestic time due to changes in the socio-demographic structure of the population.

The amount of time spent doing housework and childcare (in minutes per day) are dependent variables. All multivariate analyses for all countries control for the same set of individual, household and time diary characteristics. Respondent characteristics include age, union status, educational attainment and employment status. Age is measured with four dummies variables indicating whether respondent is aged 18-29, 30-39, 40-49 or 50-60. A dummy variable indicates whether the individual is living in a couple –married or not. Educational attainment is harmonized into three categories: low education which corresponds with less than secondary education, completed secondary education and high education. Employment status is decomposed into 6 dummy variables: in employment, unemployed, homemaker, retired, studying, other inactivity. Moreover, a dummy variable is included



for part-time work. Household characteristics include family structure and income per capita. 4 dummies are introduced for the number of children (no child, one child, 2 children, 3 children and more) and a dummy variable is coded 1 if the respondent is living with at least one child under 5. Five dummy variables are included for quintiles of income per capita. Real income per capita was computed using data on household income. We first converted the banded household income variable into a continuous measure thanks to a random selection within bracket. Then we computed the income per capita using the square root scale as equivalence scale (e.g. OECD 2011). Quintiles were computed for the distribution of income per capita in the mid-1980s. Finally, because time-use varies by day of the week, a dummy variable for week-end is introduced.

## **4. Results**

### **4.1. Trends in average housework and childcare time**

Table 4 reports the amount of time men and women spend on housework in average each day in the mid-1980s and the 2010s. There are high cross-countries differences regarding housework time. Contemporary British and American women spend around 2 hours and 40 minutes per day on housework while French and Dutch women devote to it three hours per day. For contemporary men, housework time is lower and varies from a minimum of 1 hour 25 minutes per day in the UK to a maximum of 1 hour and 48 minutes in France.

In all countries, the time spent to housework has decreased, especially for women who have cut their housework hours by 40% in the UK, a quarter in France and the Netherlands and about 20% in the USA. This decline is much lower compared to that observed during the 1960s and 1970s, especially in the USA (Bianchi et al., 2000). Women's declines in housework have not been compensated for by men's increase in housework time. While American men have doubled their housework hours between the 1960s and the 1990s, the time spent in housework has remained more or less constant between 1985 and 2010, as if they have already reached the glass ceiling of housework participation. Time spent by men to housework has even decreased by 7-14 minutes in the European countries since the mid 1980's. Thus, men's and women's time use converges, but it is entirely due to a decrease in women's amount of domestic time.

The absolute gender division of work has attenuated over time, but remains at high levels. In the mid-1980s, French and British women spent in average more than 2 hours and a half per day doing housework, they spend respectively 1 h 15 and 1h24 more than men to housework per day after the mid-2010s. The gap has significantly decreased in the Netherlands: from 2h11 to 1h27. The gap

between men's and women's time use is lower in the USA. But women still spend one hour more than men per day to housework.

Finally, the relative contribution of women to the total amount of housework is very close between countries: women's contribution to housework stands between 62 and 67%, on average. The gender gap is a bit lower in France and the US than in UK and the Netherlands. In 25 years, women's share has only decreased from a low of 3 percentage points to a high of 6 percentage points.

**Table 4: Trends in average daily housework time by gender**

	Average time (min per day)				Participation rate (%)		Average time for participants (min per day)	
	Men	Women	Difference	Women's share	Men	Women	Men	Women
<b>France</b>								
1985-86	115	257	142	69%	88	99	130	259
2009-10	108*	184*	76*	63%	75*	93*	145*	199*
<b>Netherlands</b>								
1985	106	237	131	69%	97	100	110	238
2005	94*	181*	87*	66%	97	100	97*	182*
<b>USA</b>								
1985	98	193	95	66%	79	94	125	204
2010	97	161*	64*	62%	77	90*	126	178*
<b>UK</b>								
1983	99	245	146	71%	80	96	123	256
2005	85*	169*	84*	67%	74*	91*	115	184*

\* Significant change compared to previous survey

Gender segregation in household task still persists over time (table 5). Women still mostly perform the core traditionally everyday routine "female typed" tasks: meal preparation, cleanup and laundry while men still do more episodic household tasks such as home repairs (Barnett and Schen, 1997; Bianchi et al., 2000). Over the 25 last years, changes are concentrated in core housework. In particular, time spent at cooking has significantly decreased in all four countries. Women spend about half an hour less to meal preparation than 25 years ago. This decrease in cooking may be attributable to higher use of quickly prepared substitutes or readymade food, to more frequent eating out, either at work or restaurants, and to lower standard regarding the composition of meals, i.e. a shift towards simple meals.

**Table 5: Time spent on specific activities**

	France				Netherlands				USA				UK			
	Men		Women		Men		Women		Men		Women		Men		Women	
	1985	2010	1985	2010	1985	2005	1985	2005	1985	2010	1985	2010	1983	2005	1983	2005
<b>Cooking</b>	25	25	103	67	26	27	93	63	19	20	71	52	30	24	97	50
<b>Cleanup</b>	10	16	53	48	8	7	47	31	21	14	44	39	7	12	35	45
<b>Laundry and ironing</b>	2	4	31	20	2	4	25	20	3	4	19	18	2	3	24	19
<b>Home repairs &amp; gardening</b>	47	42	15	15	38	26	24	21	22	32	11	12	12	na	11	na
<b>Sewing, repairing and maintaining textiles</b>	0	0	17	2	0	0	3	1	na	0	na	2	1	na	13	na
<b>Shopping</b>	17	17	29	26	17	18	33	33	19	18	33	27	24	24	40	39
<b>Adults care</b>	0	1	1	1	10	6	14	11	4	0	4	1	2	2	2	4
<b>Bookkeeping and administrative tasks</b>	13	9	9	6	16	12	12	12	14	10	14	13	9	17	26	9
<b>Physical care</b>	6	13	40	38	4	5	21	19	10	18	46	51	14	na	61	na
<b>Interactive childcare</b>	5	7	8	9	11	19	19	30	7	20	12	27	10	na	14	na
<b>Help with homework</b>	2	2	5	5	1	2	2	4	1	3	5	9	1	na	1	na
<b>Transports</b>	2	7	5	14	4	6	14	25	5	9	12	19	8	na	19	na

Time spent on childcare differs significantly across countries: Contemporary French women spend 66 minutes to child care activities, Dutch women 78 minutes (table 5). British and American women devote much more time to these activities, respectively 110 and 106 minutes per day. Men spend between 29 minutes per day in France to 58 minutes in the UK to childcare. These figures do not include time spent with children nor time monitoring children, but time to activities explicitly devoted at children. Thus, cross-country differences reflect different levels of state policies regarding childcare. The small figures for France are partly due to the high coverage of childcare facilities, including extended school schedules from the age of three.

Trends are rather different regarding parental time (table 6). Indeed, increase in both mothers' and fathers' childcare time is observed since the mid-1980s, from a low of 8 minutes per day for French women to a high of 31 minutes per day for American women. Moreover, more men participate to childcare the day studied. The increase in childcare time is much higher for participants. Both women and men seem to have shifted to doing more childcare, they appear to have preserved child care time by reducing housework time.

In the UK and France, fathers have increased their childcare time much more than mothers, so that the absolute gender childcare time gap has slightly decreased (respectively by 6 and 11 minutes per day). In the USA and the Netherlands, the growth is higher for women, and the gender gap has slightly increased over the last 25 years (respectively by 5 and 10 minutes per day). In spite of these trends, the women's share in childcare remains high with small cross country difference: women perform between 65% and 71% of daily childcare. The relative gap is lower in the UK.

**Table 6: Average parenting time**

	Average time (min per day)				Participation rate (%)		Average time for participants(min per day)	
	Men	Women	Ecart F-H	Women's share	Men	Women	Men	Women
<b>France</b>								
1985-86	15	58	43	79%	31	57	48	103
2009-10	29*	66*	37	69%	35*	55	80*	121*
<b>The Netherlands</b>								
1985	19	55	36	74%	57	76	33	73
2005	32*	78*	46*	71%	74*	86*	44*	90*
<b>USA</b>								
1985	24	75	51	76%	34	66	68	113
2010	50*	106*	56	68%	46*	69	109*	153*
<b>UK</b>								
1983	32	95	63	75%	43	73	76	130
2005	58*	110	52	65%	45	70	130*	157*

\* Significant change compared to previous survey

The most noticeable change is the increase of time spent to travel children in the three countries for which we have details on childcare activities, probably due to the higher urbanization (table 6). Interactive childcare has also jumped in the Netherlands and the USA, especially for women. This trend confirms the evolution of cultural standards of parenting toward time-intensive practices (Bianchi, Robinson and Milkie, 2006; Gauthier et al., 2004).

#### **4.2. Trends over the whole distribution of time**

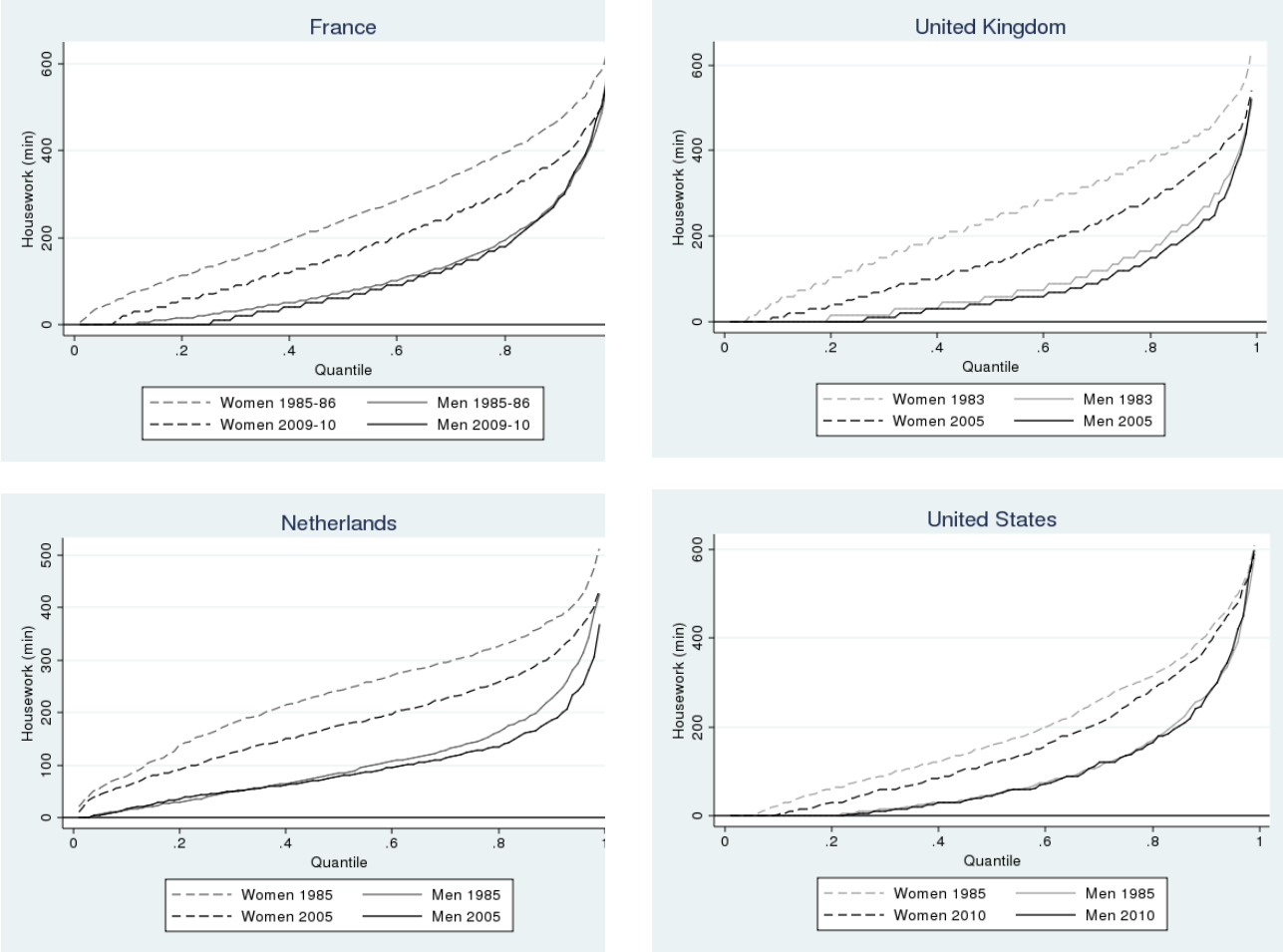
Figure 1 displays for each country the cumulative distribution of housework time for men and women in the mid-1980s and the mid-late 2000s. For women, housework time decreased throughout the distribution in all countries, the reduction being lower at the extremes of the distribution. The proportion of women spending more than 200 minutes (3h 20) per day to housework dropped from 60-65% to 35-40% in Europe. It decreased from 40% to 33% in the USA. The decrease was small at the bottom of the distribution in European countries, especially in the Netherlands, but larger for the rest of the population showing that gains in domestic tasks have benefited to all women except those who spent very few time on domestic chores. The gain in the US is largely more limited and does not concern the fraction of women who contributed the most (at the top of the distribution). The share of women devoting more than 400 minutes (6h40) was almost stable in the USA (around 10%) while it decreased from 20% to 10% in France, less than 10% to less than 5% in the Netherlands and 15% to less than 10% in the UK.

For men, the contemporary dispersion of daily housework time is somewhat that for the mid-1980s. In the UK, a tiny diminution of housework occurred almost throughout the distribution. In the Netherlands, a small reduction occurred for the upper half of the distribution. 14% of men devoted more than 200 minutes per day to housework in 1985, this share fell to 8% 30 years later. In France, a tiny diminution rather took place at the bottom of the distribution showing that the share of men devoting only few minutes to domestic work has been increasing over time. This result could also come from a statistical artifact since the minimum duration of activities filled in the diaries shifted from 5 minutes to 10 minutes between the 1985 and 2010 surveys. This could lead to an underestimation of men's short periods investments.

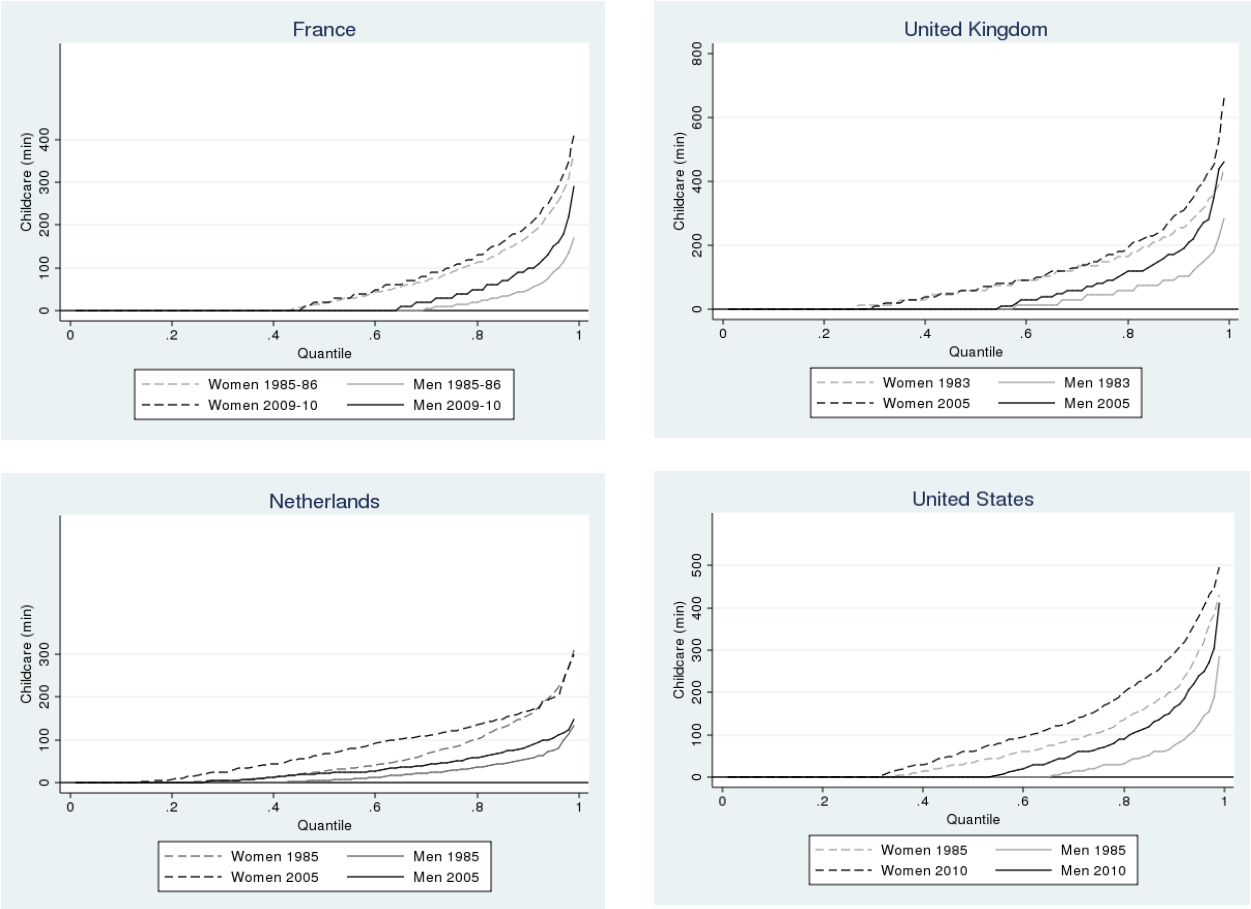
For childcare, except in the Netherlands, the increase occurred mostly on the top of the distribution (in the last two quintiles), for women and men as well (figure 2) even if the family sizes have been reduced on the period. However, a reduction of the proportion of non-participant fathers occurred in

almost all countries, of little magnitude in France and United Kingdom perhaps because of the same artifact (the minimum duration of activities has been also enlarged in the UK survey during the observation period).

**Figure 1: Inverted cumulative distribution of housework time**



**Figure 2: Inverted cumulative distribution of childcare time**



**4.3. Decomposition of change**

Table 7 presents the decomposition analysis of the change in average daily housework time between the 1980s and the 2000s for women (see complete regressions in appendix A1 and A2). The first three lines report the average time in the 1980s, in the 2000s and the raw difference between these dates. This difference is decomposed into two components, the part of the raw time gap explained by differences in observed characteristics and the part of the raw time gap explained by the difference in propensity to do housework over time, also called “unexplained part”. In other words, the explained part corresponds to a compositional change in the population, whereas the unexplained part could be interpreted as a behavioral change.

For women, the changes in behaviors are the main explanation for the decrease in housework between the two dates, except in the Netherlands where the structural part, with 28 minutes, i.e. 51% of the 56 minutes decline, plays almost the same role as behavioral component. In the other countries, this compositional effect is much lower: changes in the characteristics of the female

population count for 32 minutes in the United Kingdom (42% of the total reduction of female household work), 17 minutes in France (23%), and 10 minutes in the US (33%).

Shifts in employment status account for the vast majority of the compositional component (see column “explained”): 83% in France, 86% in the US, 93% in the Netherlands and 109% in the UK<sup>2</sup>. The decrease of the proportion of homemakers is the main driver of the decrease of housework. It accounts for a drop of about half an hour of daily housework in the Netherlands and UK and around one quarter in France and the US. In these last two countries, the increase in female unemployment also accounts for a small increase of housework (respectively 4 and 2 minutes per day). In European countries, the diffusion of female part-time employment has also contributed to increasing the female daily housework, especially in the UK where it accounts for a 12 minutes growth.

Lower changes are due to shifts in women’s demographic characteristics. Smaller proportions of women living in partnership and living with children in the household account for a decline in housework while the ageing population, i.e. higher share of women older than 40, explains an increase of daily housework. Surprisingly, the progression of female education level did not result in a significant decrease in female investment in housework. Hence, the increase in the proportion of college educated only account for a decrease of 3 minutes in France and 2 minutes in the Netherlands, and has no significant impact in the UK and the US. The increase in real household income also explained a small decrease in housework in France and the US.

Changes in propensity to do housework, i.e. the unexplained component, are a much more important explanation of the decrease in female housework over the period. Due to changes in behaviors, if women in 2005-2010 had the same employment and demographic characteristics than those in the mid-1980s, they would have spent 55 minutes less to housework in France, 45 minutes less in the UK, 28 minutes less in the Netherlands and 21 minutes less in the US. In other words, the total decrease of household time is rather due to changes in practices rather than changes in composition of the population. In the Netherlands and the US, an educational gradient is visible in behaviors. The decreased propensity to do housework of the college educated women has been more important than for the lower educated women. In the UK and the Netherlands, the lower propensity to do housework for housewives and for part-time women to do housework explains a huge part of the total decrease. In France, most of the unexplained change is attributed to the intercept. It means that the omitted category in the regression could be the driver of these changes. Here the reference population was the lower educated women in employment living in partnership with one child, thus changes are driven by employed women rather than women out of the labor force, contrary to the two other European countries. Unobserved characteristics, such as technical

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<sup>2</sup> In the UK, other compositional changes played in favor of an increase of female daily housework.



progress, higher externalization of housework or changes of norms, are also responsible for these behavioral changes.

For men, shifts in characteristics had no significant effect on their household participation in the Netherlands and the UK in average (table 8 and tables A1 and A2 in appendix for the completed regression). It had a small positive effect in the other two countries: + 8 minutes in France and + 7 minutes in the US. The increase in male unemployment resulted in a small increase of male housework in France and the US. Indeed, when they are unemployed, men perform more housework at home (Solaz, 2005). A small increase is also due to the higher frequency of American men that work part-time now relatively to in the mid-80s. However, demographic factors had virtually no impact, except the higher share of men older than 40 and the larger share of men with 3 children and more that slightly increased men's domestic work in France and the US respectively.

Changes in propensity to do housework have also lead to a decrease in male investment in housework in the European countries. In France, they have even counterbalanced the positive effect of changes in characteristics. In the US, changes in behaviors have no significant effect in average since opposite forces act. These changes in propensity come from different groups according to countries: in the UK, the decreased propensity to do housework is important for men with one child in the household and the college graduates. In the Netherlands, this propensity has decreased for childless men, while in the US single, it decreased for one child fathers and those in the top and bottom of the income distribution. In France again, the intercept picks up the largest part of the unexplained part. But the reduced propensity for housework of younger men is also important. These results show that several forces have driven the domestic behavioral of men; they seem much more affected by country specific cultural aspects than women. These results might also suggest that unobserved characteristics are much more important than observed characteristics.

Most of the increase in childcare time is also explained by changes in propensity rather than changes in characteristics, both for women and men (tables 9 and 10 and appendix A.3 and A.4). Various changes in characteristics have played in opposite directions, explaining the insignificant effect for total characteristics. The decrease in the share of female out of the labor force and the higher share of women older than 40 – who are more likely to have older children who need less care– have resulted in a decrease of childcare in all four countries. The lower proportion of single mothers has also explained the decrease of childcare time in the UK and the Netherlands. On the opposite, the increase of childcare is related to the higher share of women living with a child under 5, and to the greater proportion of women holding a college diploma. This higher share of college educated also

explains the increase of childcare time for men although the effect is rather tiny, it accounts for about 2-4 minutes per day.

Again, changes in propensity to do childcare are the main driving factor. Without any change in composition of the population, childcare time would have increased by 9 minutes per day in France and the UK, 23 minutes in the Netherlands and 25 minutes in the US for mothers. For fathers, it would have increased respectively by 12, 20, 10 and 24 minutes. Thus, the change in practices is of the same order of magnitude for men and women in France and the US. However, this increase in practices is more than two and a half times bigger in the United States than in France, showing that parental investment is culturally supported, whereas in France state investment in childcare from early childhood is likely to exempt parents from spending long time with their children. In the Netherlands mothers have much more modified their behaviors, while in the UK men much more increased their propensity for childcare, especially those in employment, with high income and with a large family. In France and the US, women working part-time and those out of the labor force have also increased their propensity for childcare.

**Table 7: Decomposition of 2000s-1980s change in average daily housework time, women**

Housework	France overall	explained	unexplained	UK overall	explained	unexplained	Netherlands overall	explained	unexplained	USA overall	explained	unexplained
<b>Average time 1980s</b>	256.77***			245.42***			237.45***			192.87***		
	(2.24)			(5.06)			(3.62)			(3.71)		
<b>Average time 2000s</b>	184.36***			168.51***			181.43***			161.29***		
	(2.74)			(3.12)			(3.44)			(3.65)		
<b>Raw difference</b>	-72.41***			-76.91***			-56.02***			-31.58***		
	(3.54)			(5.95)			(4.99)			(5.20)		
<b>Characteristics</b>	-16.88***			-32.16***			-28.35***			-10.41**		
	(3.10)			(7.64)			(4.75)			(4.85)		
<b>Propensity</b>	-55.53***			-44.74***			-27.66***			-21.17***		
	(3.40)			(7.67)			(4.62)			(6.40)		
Employment status		-13.67***	-2.58		-30.18***	-18.09***		-31.33***	-1.26		-8.84***	4.28
		(1.83)	(2.88)		(4.21)	(4.25)		(3.48)	(3.12)		(2.86)	(4.54)
Part time		2.75***	-2.30		12.39***	-15.88***		6.74***	-9.97**		0.26	5.17***
		(0.77)	(1.71)		(2.66)	(5.04)		(1.89)	(4.62)		(0.24)	(1.37)
Income		-1.68**	14.86**		0.03	-17.34		1.57	7.39		-4.79*	24.92***
		(0.71)	(6.55)		(2.07)	(12.07)		(0.97)	(10.41)		(2.55)	(8.67)
Education		-3.36***	3.01		-8.23	-0.93		-3.20**	-27.99***		-1.85	-23.14*
		(1.02)	(3.19)		(5.59)	(9.71)		(1.43)	(9.16)		(1.35)	(13.61)
Partnership status		-7.45***	2.28		-6.46***	10.54**		-2.92**	6.35**		-1.80***	-6.75**
		(1.10)	(2.67)		(1.72)	(4.11)		(1.34)	(2.73)		(0.66)	(3.13)
Children		-1.00***	3.66		-3.82**	-1.21		-4.56**	5.18		3.21***	-5.60
		(0.35)	(5.43)		(1.55)	(10.52)		(2.05)	(8.84)		(1.23)	(8.90)
Age		7.38***	-5.79		4.02***	6.39		5.35***	0.89		3.37***	-7.85
		(1.19)	(6.15)		(1.44)	(8.36)		(1.31)	(7.15)		(1.27)	(6.92)
Weekend		0.15	0.95		0.09	3.61					0.03	-1.97
		(0.15)	(1.65)		(0.17)	(2.70)					(0.55)	(2.78)
Constant			-69.60***			-11.86			-8.26			-10.23
			(12.26)			(24.74)			(19.67)			(18.90)
Observations		18,208			5,722			2,240			8,468	

Standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 8: Decomposition of 2000s-1980s change in average daily housework time, men**

Housework	France overall	explained	unexplained	UK overall	explained	unexplained	Netherlands overall	explained	unexplained	USA overall	explained	unexplained
<b>Average time 1980s</b>	115.06*** (1.95)			98.61*** (4.50)			106.27*** (3.46)			98.49*** (3.44)		
<b>Average time 2000s</b>	108.00*** (2.38)			85.06*** (2.18)			94.10*** (3.33)			97.20*** (3.36)		
<b>Raw difference</b>	-7.06** (3.08)			-13.55*** (5.00)			-12.17** (4.80)			-1.29 (4.81)		
<b>Characteristics</b>	8.45*** (2.11)			-1.76 (4.84)			2.96 (4.04)			7.21* (4.09)		
<b>Propensity</b>	-15.51*** (3.32)			-11.79** (5.94)			-15.13*** (5.29)			-8.50 (5.74)		
Employment_status		4.03*** (1.26)	-3.46 (2.33)		-4.54 (2.96)	-5.76* (3.05)		-5.39** (2.16)	0.49 (2.54)		5.17** (2.17)	-4.23 (3.84)
Part_time		-0.26 (0.62)	1.22 (0.99)		0.89 (0.62)	-0.07 (1.17)		0.40 (0.42)	0.70 (1.78)		1.45*** (0.56)	1.65* (0.97)
Income		1.61** (0.67)	4.30 (6.22)		1.23 (1.62)	-10.53 (18.24)		-0.94 (1.16)	9.12 (10.27)		-3.82 (2.41)	19.93** (9.83)
Education		-0.06 (0.79)	-1.53 (2.70)		3.62 (2.50)	-15.62* (9.11)		-1.68 (1.79)	5.22 (9.39)		0.22 (0.64)	-4.80 (11.94)
Partnership status		0.09 (0.98)	-4.12 (2.66)		-5.32*** (1.82)	4.63 (4.12)		-1.25* (0.75)	2.98 (3.51)		-0.07 (0.98)	-9.55** (3.78)
Children		0.97** (0.39)	1.95 (5.83)		2.31 (2.00)	28.39** (13.59)		8.17*** (2.31)	-27.77** (10.99)		3.33** (1.30)	9.62 (9.50)
Age		2.69*** (0.73)	9.77* (5.38)		1.33 (0.97)	8.67 (7.87)		3.65*** (1.34)	6.81 (8.13)		1.63 (1.06)	-4.90 (7.97)
Weekend		-0.62 (0.42)	-1.73 (1.72)		-1.28 (0.84)	-2.82 (2.51)					-0.70 (0.53)	5.23** (2.63)
Constant			-21.90** (10.54)			-18.69 (25.16)			-12.68 (18.25)			-21.46 (19.56)
Observations		16,689			3,975			1,719			6,863	

Standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 9: Decomposition of 2000s-1980s change in average daily childcare time, women**

Childcare	France overall	explained	unexplained	UK overall	explained	unexplained	Netherlands overall	explained	unexplained	USA overall	explained	unexplained
<b>Average time 2000s</b>	66.37***			110.41***			77.97***			105.52***		
	(2.42)			(5.68)			(3.73)			(3.74)		
<b>Average time 1980s</b>	58.33***			95.26***			55.44***			74.67***		
	(1.40)			(5.68)			(2.58)			(3.90)		
<b>Raw difference</b>	8.04***			15.15*			22.53***			30.84***		
	(2.79)			(8.03)			(4.54)			(5.41)		
<b>Characteristics</b>	-0.89			5.47			-0.25			5.37		
	(2.15)			(8.99)			(4.30)			(4.76)		
<b>Propensity</b>	8.94***			9.68			22.78***			25.47***		
	(2.39)			(9.66)			(4.61)			(6.53)		
Employment status		-5.58***	4.71**		-10.06***	-2.71		-6.84***	-4.39		1.07	9.63*
		(0.93)	(2.01)		(2.51)	(5.01)		(2.41)	(3.05)		(2.84)	(5.20)
Part time		-0.30	3.61***		3.67*	-4.78		1.16	-3.19		-0.01	3.22***
		(0.37)	(1.10)		(1.89)	(6.84)		(1.61)	(5.09)		(0.11)	(1.16)
Income		0.03	-10.52**		1.28	9.59		-0.27	10.34		-0.19	7.98
		(0.28)	(4.68)		(2.80)	(14.93)		(1.15)	(8.75)		(2.13)	(10.54)
Education		4.67***	-1.45		7.36	-1.16		2.59**	-0.64		0.14	4.03
		(0.74)	(2.20)		(6.29)	(11.31)		(1.11)	(8.87)		(1.45)	(10.99)
Partnership status		0.20	-8.03***		-4.10***	4.50		-1.23*	0.85		-0.62	-5.71
		(0.58)	(1.83)		(1.54)	(3.56)		(0.70)	(2.00)		(0.99)	(3.53)
Children		2.96**	-8.75***		8.39*	14.22		6.62**	8.07		8.38***	9.28
		(1.43)	(3.37)		(4.61)	(10.74)		(2.83)	(5.84)		(2.07)	(6.16)
Age		-2.82***	7.12		-0.92	-2.48		-2.29**	-17.24		-2.95***	15.73*
		(0.52)	(5.99)		(1.19)	(12.96)		(0.92)	(11.54)		(0.97)	(9.50)
Weekend		-0.06	-3.90***		-0.16	-3.71					-0.44	-0.36
		(0.06)	(1.04)		(0.48)	(2.92)					(0.65)	(2.28)
Constant			26.16**			-3.80			28.98			-18.32
			(10.19)			(25.29)			(20.45)			(19.71)
Observations		11,851			3,134			1,193			5,369	

Standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 10: Decomposition of 2000s-1980s change in average daily childcare time, men**

Childcare	France overall	explained	unexplained	UK overall	explained	unexplained	Netherlands overall	explained	unexplained	USA overall	explained	unexplained
<b>Average time 2000s</b>	28.85***			58.38***			32.26***			50.42***		
	(1.48)			(5.80)			(2.26)			(2.28)		
<b>Average time 1980s</b>	14.83***			32.30***			19.00***			23.50***		
	(0.57)			(3.30)			(1.30)			(2.25)		
<b>Raw difference</b>	14.02***			26.08***			13.26***			26.92***		
	(1.59)			(6.68)			(2.60)			(3.20)		
<b>Characteristics</b>	2.01***			5.75			2.80			3.26		
	(0.76)			(3.66)			(2.08)			(2.48)		
<b>Propensity</b>	12.00***			20.33***			10.46***			23.66***		
	(1.53)			(7.74)			(2.68)			(4.02)		
Employment status		0.35*	1.46		0.35	4.10***		0.80	0.58		0.58	3.03
		(0.19)	(0.90)		(1.05)	(1.49)		(0.87)	(1.05)		(0.79)	(2.28)
Part time		-0.01	0.45		-0.00	3.15**		0.53	-0.58		0.57	1.15
		(0.19)	(0.39)		(0.10)	(1.37)		(0.38)	(0.92)		(0.37)	(0.78)
Income		0.44**	0.32		-0.75	-6.54		0.67	2.00		-0.95	9.93
		(0.19)	(2.96)		(2.21)	(18.15)		(0.62)	(4.08)		(1.86)	(7.49)
Education		1.55***	1.10		4.14*	-6.58		1.74**	-1.01		-0.34	9.49
		(0.34)	(1.24)		(2.39)	(9.77)		(0.69)	(4.78)		(0.54)	(8.82)
Partnership status		-0.78**	-4.28**		0.08	-2.41		-0.14	-0.21		1.07	-6.36***
		(0.33)	(2.04)		(0.25)	(2.56)		(0.29)	(1.20)		(0.84)	(1.79)
Children		0.89**	4.88**		1.21	14.37*		0.55	11.26***		1.77	7.77
		(0.41)	(2.04)		(1.81)	(7.36)		(0.99)	(3.95)		(1.09)	(5.09)
Age		-0.38***	-5.13		0.87	-25.67		-1.34*	6.97		0.57	-3.53
		(0.14)	(6.83)		(1.01)	(17.19)		(0.75)	(8.14)		(0.81)	(7.68)
Weekend		-0.05	0.35		-0.14	6.50**					-0.03	-1.31
		(0.06)	(0.80)		(0.14)	(3.25)					(0.10)	(1.60)
Constant			12.86			33.41			-8.54			3.49
			(9.23)			(25.48)			(10.74)			(10.59)
Observations		10,808			1,885			819			3,843	

Standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## Conclusion and Discussion

In all developed countries, in spite of dramatic increase of female participation to the labor market, women continue to perform the vast majority of domestic tasks, with cross-country differences in the magnitude of this gap. The aim of this paper is to analyze the trends of the gender gap in domestic and parental work over the past 25 years and to evaluate whether the trends are driven mainly by changes in individual characteristics or by changes in behaviors in different institutional contexts. We have compared four countries that differ in their welfare regimes, labor market regulations, family and work life reconciliation policies to investigate whether institutional differences can be linked to different sources of gender time gap.

Over the past 25 years, men's and women's time use tends to converge, but it is entirely due to a decrease in women's amount of domestic time, especially time spent at cooking. After the sizeable decline between 1965 and 1985, the time spent by American men in housework has remained more or less constant between 1985 and 2010, as if they have reached a glass ceiling of housework participation. Time spent by men to housework has even decreased in the selected European countries. The relative contribution of women to the total amount of housework has only slightly decreased during the past 25 years and they still mostly perform the core traditionally everyday routine "female typed" tasks.

On the other hand, both women and men have shifted to doing more childcare in all four countries. In the UK and France, fathers have increased their childcare time much more than mothers while in the USA and the Netherlands, the growth is higher for women. In spite of these trends, the women's share in childcare remains high with small cross country difference: women perform around two thirds of daily childcare. Finally, 10 years after the beginning of the new Millennium, women and men display quite traditional gender roles through this unequal division of household labor. Housework remains a symbolic enactment of gender relations.

The decomposition shows that the trends in housework and childcare time over time are mainly explained by changes in practices for a given characteristic, rather than changes in the characteristics of the population, both for men and women. Shifts in female employment status, mostly the decrease of the proportion of homemakers have significantly contributed to decreasing the female daily housework and childcare. Tiny changes are due to shifts in demographic characteristics. In particular the progression of female and male education level did not result in a significant decrease in female investment in housework. But this progression of the education level contributed to the increase of childcare for both women and men. Thus college graduated men and women appear to have invested in child care rather than in housework. Opposite trends have contributed to increasing

housework participation, for instance the diffusion of part-time employment in European countries, especially in the UK, and the increase in unemployment.

Both for men and women, trends are due to changes in practices rather than in individuals' characteristics. These changes in behaviors have led to a decrease in housework and an increase in childcare. Several factors may have played in favor of the decrease in intensity to do housework. First, the possibility to outsource housework has increased. Higher use of quickly prepared substitutes or readymade food and more frequent eating out have significantly reduced time spent cooking. Housekeeping services have also grown in importance, and women spend less time repairing clothes when they can buy cheap new ones. Second, technological progress in home equipment or domestic product may have contributed to reduce housework time, even if the "domestic revolution" occurred mainly before the eighties and productivity gained have seriously reduced over the last 25 years. Third, these behavioral trends are probably due to a decrease in standard for home cleanliness or the composition of meals over time. The perception of a "neat" and "clean" home has changed and houses are receiving today less overall cleaning and attention than before (Robinson and Milkie, 1998). The low participation of men to housework, and the high time squeeze women suffer, may have lead women to revise their standard vis-à-vis housework and to disinvest in housecleaning and cooking. But, men have been keen to adopt lowered standards regarding housework, and women still do the bulk of housework.

Changes in cultural standards have also affected childcare, but in an opposite way. News norms about parenthood have emerged over the period. More attention and time are directed to the child because parental investment is now considered as a necessity, a benefit for a child's emotional development (Bianchi, Robinson and Milkie, 2006; Gauthier et al., 2004). College graduates were the leaders of such changes. Fathers were also much more implicated in childcare, which became also much more valued over time. However, the gender division of childcare remains, with mother in the front line assuming the routine daily childcare.

During the new millennium there remain cross-countries differences, both regarding the level of housework time and regarding the trends. The US and France are the countries with the lower gender gap in housework, but with the lowest domestic workload in the US, and the highest in France. Gender inequalities in housework are higher in the Netherlands and the UK, with a much higher domestic workload in the former country. Gender inequalities in childcare are also higher and growing in the Netherlands, where women have been much more involved in childcare in the last decades. They are the lowest in the UK, where the men's investment has sharply increased over the past 20 years.

The cross-countries differences are partly explained by cultural standards that greatly differ between countries, for instance cooking is part of the culture in France, or various level of outsourcing. For



instance, the US were the forerunners of the service economy. But they are also explained by public policies and labor market structure. The high level of publicly funded childcare in the Netherlands and France contributes to lower parental time. The diffusion of part-time work in the Netherlands and the UK favors longer domestic time. Women and men do less housework in the US, where the annual working hours are the longest and female full-time employment the highest. However, in spite of these cultural and structural differences, long term trends are more similar than divergent across the four countries, and the gender division of housework persists.

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Appendix A.1: Complete OLS regressions for daily housework, France and Netherlands

Housework	France				Netherlands			
	Women 1985	2010	Men 1985	2010	Women 1985	2005	Men 1985	2005
In employment	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Unemployed	109.13*** (8.39)	86.78*** (9.33)	100.43*** (11.45)	69.75*** (10.45)	64.09*** (14.83)	46.64*** (17.70)	76.91*** (13.67)	68.65** (27.32)
Retired	104.11*** (16.22)	66.95*** (15.90)	138.29*** (14.56)	107.48*** (16.41)	119.53*** (15.85)	41.17*** (14.41)	90.11*** (33.08)	135.22*** (47.65)
Studying	-50.57*** (9.26)	-6.29 (11.61)	-27.97*** (7.48)	1.30 (9.40)	-36.84*** (9.32)	-34.15*** (9.48)	1.19 (8.51)	-19.83* (10.49)
Housemaker	126.66*** (4.90)	98.39*** (8.85)	104.62** (42.81)	273.80*** (73.57)	92.84*** (8.21)	63.79*** (9.76)	126.66*** (8.84)	23.65** (11.69)
Out of the labor force (other)	56.66*** (17.44)	56.60*** (15.66)	91.26*** (18.44)	33.00** (12.95)		54.37*** (12.35)		26.84* (16.03)
Part time	26.64*** (7.07)	14.15** (6.01)	-5.72 (13.73)	14.60 (9.00)	29.09*** (7.64)	8.33 (5.80)	10.42 (9.83)	15.89 (9.66)
Per capita income <A	0.53 (6.32)	1.68 (7.48)	-13.91** (6.24)	-3.90 (9.73)	9.45 (9.64)	14.48 (10.50)	-7.08 (12.68)	3.72 (8.52)
Per capita income A-B	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Per capita income B-C	-7.35 (6.15)	10.67 (7.34)	1.64 (5.97)	11.30 (7.37)	-8.82 (8.94)	7.35 (11.67)	-1.26 (11.43)	13.92 (10.59)
Per capita income C-D	-17.52*** (6.16)	-3.21 (7.89)	4.97 (5.74)	8.79 (6.70)	-4.65 (9.52)	-0.10 (11.31)	-1.46 (10.78)	0.20 (9.19)
Per capita income >D	-41.57*** (6.53)	-7.64 (8.57)	-2.81 (5.86)	-1.63 (7.11)	-14.16 (10.42)	-4.75 (11.36)	-16.65 (11.07)	4.58 (9.24)
Per capita income unknown	-22.06** (9.36)	49.90** (24.24)	-15.74* (8.84)	3.69 (51.73)	-0.09 (7.27)	8.92 (10.98)	-0.60 (11.49)	4.07 (10.10)
< secondary	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Completed secondary	-18.58*** (5.26)	-6.28 (6.65)	6.28 (5.70)	5.99 (7.55)	-9.60* (5.74)	-38.60*** (9.39)	-9.78 (7.81)	-2.60 (9.11)
> secondary	-14.78*** (5.30)	-12.17** (5.56)	-0.85 (5.67)	-6.30 (4.93)	-16.94** (7.63)	-56.35*** (9.82)	-4.90 (8.56)	0.30 (9.10)
Single	-44.60*** (5.61)	-37.93*** (5.42)	0.55 (5.76)	-11.96** (5.62)	-62.41*** (7.28)	-39.23*** (6.67)	-24.81*** (7.73)	-15.26* (8.16)
In a couple	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
No children	-14.81*** (5.06)	-10.83* (6.13)	7.80 (5.19)	11.08* (6.22)	-9.91 (8.10)	-12.66 (7.98)	26.33** (10.66)	-14.63 (9.06)
1 child	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
2 children	5.99 (5.03)	6.61 (6.39)	-6.30 (5.08)	-4.03 (6.55)	7.06 (7.53)	18.82** (8.70)	-3.68 (8.87)	-20.44** (9.54)
3 or more children	7.42 (6.82)	21.11** (8.21)	-16.01** (6.50)	-8.54 (8.04)	8.35 (9.52)	42.70*** (11.25)	-19.82* (10.33)	0.02 (14.16)
< 5 years old	-1.20 (5.23)	-0.91 (7.05)	15.70*** (5.15)	10.99 (7.70)	-9.97 (7.38)	0.33 (8.63)	12.45 (9.19)	-8.44 (9.67)
18-30 years old	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
30 -40 years old	42.94*** (5.35)	38.86*** (6.78)	34.76*** (5.15)	36.59*** (6.43)	29.66*** (6.70)	20.26** (8.12)	13.18* (7.55)	25.71*** (9.19)
40 - 50 years old	75.99*** (6.34)	69.50*** (7.86)	40.32*** (6.19)	56.16*** (6.70)	57.68*** (8.90)	51.46*** (9.21)	23.20** (10.54)	35.10*** (9.00)
50 - 60 years old	101.69*** (6.13)	89.33*** (8.41)	39.01*** (5.83)	59.44*** (7.08)	51.54*** (9.61)	72.56*** (8.46)	37.99*** (12.39)	39.95*** (9.98)
Weekend	17.50*** (4.04)	20.77*** (4.02)	46.26*** (4.34)	40.09*** (4.28)				
Constant	188.66*** (7.30)	119.06*** (9.85)	64.73*** (6.30)	42.83*** (8.45)	178.67*** (11.23)	170.41*** (16.15)	88.21*** (12.56)	75.53*** (13.24)
Observations	8,631	9,574	8,373	8,312	1,391	849	1,060	659
R-squared	0.34	0.21	0.14	0.12	0.49	0.44	0.20	0.21

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Appendix A.2: Complete OLS regressions for daily, United Kingdom and United States

Housework	United Kingdom				United States			
	Women 1983	2005	Men 1983	2005	Women 1985	2010	Men 1985	2010
In employment	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Unemployed	156.57*** (23.83)	60.03*** (10.39)	79.88*** (16.41)	31.00*** (8.69)	99.18*** (18.12)	72.68*** (10.33)	75.21*** (26.01)	81.90*** (14.54)
Retired	99.12** (41.70)	33.29 (27.25)	122.67 (76.52)	37.57 (26.36)	89.06*** (29.37)	83.54*** (28.69)	70.91*** (25.42)	55.41*** (17.10)
Studying	-0.66 (14.55)	22.42 (37.40)	32.29* (17.48)	11.47 (15.55)	-18.64 (13.22)	-5.49 (7.39)	13.62 (18.97)	0.84 (10.17)
Housemaker	145.18*** (10.22)	64.65*** (12.87)	321.44*** (97.25)	50.65* (30.23)	111.83*** (9.37)	93.85*** (10.09)	209.30*** (64.90)	74.28*** (23.75)
Out of the labor force (other)	81.56** (34.22)	19.28 (12.42)	19.53 (31.15)	26.68* (14.57)	38.68** (17.77)	75.38*** (9.14)	70.84*** (20.28)	39.26** (17.67)
Part time	83.47*** (9.63)	43.09*** (8.31)	18.45 (12.19)	17.59** (7.41)	-4.90 (3.61)	24.90*** (7.01)	-9.09*** (2.70)	6.15 (8.66)
Per capita income <A	-0.39 (11.70)	-18.99 (11.64)	3.57 (16.35)	-14.86 (18.32)	-18.14* (10.26)	18.06*** (6.31)	-20.54* (12.43)	3.72 (5.63)
Per capita income A-B	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Per capita income B-C	-6.98 (10.98)	-19.49 (12.30)	-2.83 (8.97)	14.58 (17.07)	-3.41 (11.21)	11.20 (7.92)	-4.47 (11.54)	16.58 (13.81)
Per capita income C-D	0.50 (10.50)	-16.88 (13.68)	10.70 (11.36)	-0.54 (16.82)	1.50 (11.11)	16.09 (9.79)	-14.40 (11.09)	12.20 (12.30)
Per capita income >D	-10.96 (11.16)	-39.29** (15.99)	3.17 (12.86)	-7.78 (20.88)	-11.46 (11.53)	2.42 (8.75)	-20.10* (11.46)	3.64 (6.92)
Per capita income unknown	-11.70 (11.73)	-31.30*** (10.08)	8.89 (11.35)	-8.30 (17.49)	-30.28** (12.05)	11.40 (7.99)	-29.13** (11.96)	-8.55 (8.90)
< secondary	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Completed secondary	-16.90 (12.16)	-14.43 (9.45)	5.83 (7.97)	-6.65 (7.74)	12.30 (10.34)	-9.78 (13.98)	4.86 (11.36)	4.03 (9.41)
> secondary	-12.13 (8.07)	-20.01*** (6.15)	21.10* (12.51)	-6.50 (8.78)	1.66 (10.64)	-26.34** (11.38)	8.10 (11.51)	-0.29 (8.80)
Single	-61.62*** (9.25)	-31.01*** (7.50)	-35.68*** (10.45)	-22.68*** (4.97)	-23.79*** (7.02)	-41.57*** (4.38)	-0.59 (7.93)	-25.46*** (5.86)
In a couple	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
No children	-19.06** (9.57)	-30.20*** (10.43)	-5.31 (11.84)	28.26** (11.36)	-11.01 (8.94)	-16.69* (9.21)	-16.42 (10.23)	8.24 (8.14)
1 child	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
2 children	3.41 (9.82)	5.26 (7.51)	-20.82* (11.46)	11.42 (8.92)	11.30 (11.27)	1.27 (8.45)	-4.27 (10.76)	-2.35 (9.19)
3 or more children	28.25** (12.40)	18.68 (14.32)	-19.72 (16.65)	17.99 (12.21)	1.69 (15.15)	25.59** (10.00)	52.37*** (20.04)	16.26 (12.29)
< 5 years old	-26.02** (10.62)	1.59 (15.43)	5.30 (12.17)	4.03 (8.63)	17.37 (12.07)	-1.33 (6.85)	-17.93 (11.34)	-7.53 (7.12)
18-30 years old	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
30-40 years old	14.78 (9.49)	17.67** (8.49)	16.59 (10.21)	31.63*** (6.79)	44.47*** (8.25)	25.99*** (7.66)	19.20** (8.28)	12.28 (9.41)
40-50 years old	39.28*** (11.02)	52.89*** (9.35)	22.27* (13.06)	42.00*** (7.15)	67.23*** (9.87)	52.71*** (9.91)	24.43** (10.22)	24.59** (9.35)
50-60 years old	58.74*** (12.81)	68.55*** (8.79)	34.10** (13.48)	33.17*** (8.86)	54.93*** (10.17)	56.63*** (8.32)	36.46*** (10.96)	21.70* (11.04)
Weekend	13.49** (6.06)	25.97*** (7.14)	55.95*** (6.56)	45.34*** (6.81)	38.73*** (8.05)	31.84*** (5.56)	28.70*** (7.86)	47.55*** (5.33)
Constant	170.23*** (14.61)	158.37*** (20.14)	56.90*** (15.20)	38.20* (20.21)	127.87*** (14.92)	117.64*** (11.80)	82.08*** (15.84)	60.62*** (11.68)
Observations	3,960	1,762	2,538	1,437	1,838	6,630	1,503	5,360
R-squared	0.32	0.17	0.19	0.08	0.19	0.17	0.08	0.08

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Appendix A.3: Complete OLS regressions for daily childcare, France and Netherlands

Childcare	France				Netherlands			
	Women 1985	2010	Men 1985	2010	Women 1985	2005	Men 1985	2005
In employment	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Unemployed	5.50 (4.94)	18.72** (7.46)	7.11** (2.87)	11.48** (4.68)	21.37 (23.28)	16.21 (17.07)	8.82 (5.38)	33.49*** (11.02)
Studying	-35.72*** (4.72)	-22.75** (9.12)	-3.49 (2.68)	-8.11* (4.35)	3.20 (7.18)	-46.08*** (14.68)	-0.18 (3.70)	9.04 (9.27)
Housemaker	32.95*** (2.89)	47.51*** (7.38)	19.96 (15.59)	60.28* (31.83)	16.52*** (5.62)	7.38 (9.53)	56.63*** (11.04)	13.51 (8.44)
Out of the labor force (other)	18.93** (9.02)	19.35** (8.15)	-0.24 (1.90)	29.60 (18.84)		7.49 (12.17)	21.80*** (3.91)	14.68* (8.51)
Part time	-2.79 (3.41)	15.55*** (4.34)	-0.27 (3.91)	7.10 (4.80)	3.94 (5.43)	-1.67 (7.13)	8.84* (5.12)	4.53 (4.45)
Per capita income <A	-0.14 (3.84)	-10.84 (7.03)	-1.68 (1.63)	-0.26 (6.83)	-3.60 (7.40)	9.97 (9.52)	1.30 (4.15)	-0.45 (4.69)
Per capita income	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Per capita income B-C	-4.07 (3.39)	-10.88* (5.94)	3.85** (1.73)	2.29 (3.63)	0.70 (6.74)	25.97** (12.66)	-0.75 (3.79)	-2.65 (5.25)
Per capita income C-D	-5.80* (3.37)	-22.54*** (5.65)	3.71** (1.63)	3.54 (3.57)	3.64 (7.17)	-1.50 (10.97)	-3.95 (4.13)	6.72 (5.78)
Per capita income >D	-5.99* (3.49)	-23.20*** (5.73)	0.51 (1.64)	2.67 (4.28)	-6.78 (6.13)	-0.22 (12.80)	-2.62 (4.06)	13.00* (7.74)
Per capita income unknown	-9.79** (4.56)	-45.99*** (9.23)	-0.61 (2.16)	-15.31*** (5.58)	-4.76 (5.66)	7.59 (10.07)	-3.33 (3.44)	-2.79 (5.86)
< secondary	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Completed secondary	12.01*** (3.10)	7.41 (4.88)	3.16* (1.68)	5.85* (3.11)	5.91 (3.98)	2.76 (9.58)	5.33* (2.81)	0.45 (5.32)
> secondary	22.90*** (3.53)	20.76*** (4.42)	10.60*** (2.16)	13.40*** (3.28)	13.37** (5.48)	16.40 (10.84)	7.17** (2.83)	10.14* (5.95)
Single	1.01 (2.88)	-24.25*** (4.81)	-3.80** (1.56)	-20.11*** (7.54)	-25.24*** (7.27)	-20.14** (9.59)	-9.45* (5.73)	-11.06 (7.04)
In a couple	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
1 child	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
2 children	9.18*** (2.14)	8.39** (3.79)	3.15*** (1.17)	5.08** (2.58)	-9.92* (5.35)	17.05** (6.66)	-2.22 (3.27)	3.04 (3.80)
3 or more children	10.10*** (3.25)	11.76** (5.47)	-0.83 (1.37)	6.48* (3.60)	-6.34 (6.28)	11.07 (9.31)	-7.07** (3.09)	11.19* (6.12)
< 5 years old	100.31*** (3.68)	70.20*** (6.06)	28.08*** (1.65)	36.67*** (5.29)	81.93*** (6.21)	65.39*** (8.24)	22.27*** (3.15)	37.78*** (5.66)
18-30 years old	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
30 -40 years old	3.28 (3.50)	16.48** (7.55)	6.64*** (1.73)	5.73 (7.52)	-0.90 (7.36)	-19.50 (11.87)	2.38 (5.48)	5.96 (7.96)
40 - 50 years old	-21.03*** (3.76)	-10.75 (7.73)	1.30 (1.57)	-4.69 (9.39)	-22.04*** (7.48)	-43.56*** (12.99)	-6.25 (5.80)	5.45 (8.16)
50 - 60 years old	-28.34*** (3.95)	-29.12*** (7.27)	-0.44 (1.61)	-17.37 (11.19)	-28.82*** (9.29)	-59.03*** (13.80)	-11.69** (5.63)	-3.07 (7.84)
Weekend	-5.50** (2.24)	-18.98*** (2.80)	4.93*** (1.27)	6.16** (2.53)				
Constant	25.60*** (4.23)	51.75*** (9.27)	-0.10 (1.76)	12.76 (9.06)	32.01*** (10.48)	60.99*** (17.57)	13.25** (5.41)	4.71 (9.29)
Observations	6,364	5,484	6,272	4,533	822	371	517	302
R-squared	0.44	0.33	0.19	0.19	0.47	0.47	0.34	0.40

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Appendix A.4: Complete OLS regressions for daily childcare, United Kingdom and United States

Childcare	United Kingdom				United States			
	Women 1983	2005	Men 1983	2005	Women 1985	2010	Men 1985	2010
In employment	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Unemployed	43.22*** (16.05)	16.09 (12.28)	-2.23 (10.24)	27.86* (16.38)	52.67* (27.74)	51.03*** (13.90)	0.36 (8.28)	29.06** (13.41)
Studying	9.77 (17.38)	-11.66 (25.57)	-10.19 (13.02)	-13.94 (25.04)	25.77 (20.49)	-8.00 (8.62)	2.19 (4.86)	3.79 (8.04)
Housemaker	49.37*** (9.16)	40.21*** (13.12)	13.91 (23.96)	132.96* (68.70)	40.93*** (8.27)	88.41*** (6.90)	108.69** (44.72)	40.01* (20.02)
Out of the labor force (other)	21.50 (13.05)	51.13* (26.68)	4.25 (7.07)	49.07** (18.91)	24.36* (13.59)	65.05*** (7.28)	13.44 (11.19)	33.23*** (10.62)
Part time	19.79** (9.51)	10.16 (10.03)	-0.10 (8.56)	68.08** (25.69)	0.19 (3.49)	16.95*** (4.91)	-3.42* (1.80)	9.08 (8.24)
Per capita income <A	-2.45 (11.58)	14.13 (17.17)	29.59** (13.60)	-24.44 (32.28)	-15.47 (12.51)	-12.79 (9.53)	-0.16 (8.23)	2.59 (8.54)
Per capita income A-B	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Per capita income B-C	-13.71 (10.71)	11.33 (16.10)	-0.70 (5.77)	3.72 (27.41)	-10.07 (11.51)	9.54 (7.79)	-6.21 (6.13)	2.48 (6.59)
Per capita income C-D	5.87 (11.34)	4.38 (18.39)	1.36 (6.26)	9.43 (20.17)	-19.10* (11.33)	-0.80 (7.03)	-0.53 (6.14)	9.77 (6.13)
Per capita income >D	12.86 (13.95)	30.20 (28.50)	5.84 (11.32)	-4.81 (16.47)	-12.35 (11.35)	1.38 (7.33)	10.62 (8.64)	29.61*** (8.73)
Per capita income unknown	9.93 (13.55)	11.77 (12.93)	3.61 (6.75)	6.82 (18.53)	-11.28 (13.63)	-1.34 (7.41)	-8.51 (5.99)	12.08* (6.52)
< secondary	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Completed secondary	12.38 (11.41)	13.76 (10.37)	4.12 (5.56)	3.78 (10.11)	14.41 (9.53)	10.16 (12.31)	7.39 (7.04)	13.54 (8.04)
> secondary	22.03** (10.62)	14.48 (10.69)	21.57** (10.00)	3.47 (10.21)	16.03 (10.08)	25.01*** (8.47)	7.42 (7.81)	21.97** (8.57)
Single	-29.37*** (9.60)	-14.04* (7.48)	3.77 (10.60)	-17.66 (20.16)	-5.11 (8.07)	-23.16*** (7.80)	6.80 (5.28)	-22.81*** (6.34)
In a couple	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
1 child	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
2 children	-5.72 (9.93)	39.76*** (10.45)	-3.58 (7.32)	9.67 (8.80)	3.81 (7.71)	19.31** (8.06)	12.98*** (4.43)	17.82*** (6.09)
3 or more children	-6.22 (12.76)	27.13* (13.94)	0.93 (9.58)	11.55 (9.66)	9.19 (10.62)	30.71*** (7.26)	6.63 (6.43)	19.14** (8.23)
< 5 years old	111.04*** (12.64)	90.91*** (11.69)	34.32*** (8.25)	51.04*** (9.94)	79.45*** (8.88)	76.07*** (5.30)	31.98*** (6.43)	39.18*** (4.18)
18-30 years old	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
30-40 years old	19.08 (13.17)	10.78 (12.70)	20.18** (8.76)	-10.09 (19.40)	-5.84 (10.55)	17.95* (10.37)	17.87*** (6.10)	28.36*** (9.15)
40-50 years old	-13.45 (12.17)	-11.58 (10.68)	17.63 (12.71)	-17.91 (21.27)	-32.00*** (9.98)	-7.03 (8.42)	15.40** (5.98)	7.54 (8.34)
50-60 years old	-35.91** (15.39)	-11.60 (25.96)	3.62 (11.81)	-15.50 (18.71)	-33.86*** (12.76)	-30.57** (12.42)	23.18** (9.87)	-3.51 (10.75)
Weekend	-25.30*** (3.99)	-38.10*** (9.27)	4.41 (3.79)	29.92** (12.16)	-31.05*** (6.18)	-32.31*** (5.17)	1.24 (4.70)	-3.52 (3.44)
Constant	26.91* (15.70)	23.12 (19.99)	-6.90 (11.35)	26.52 (23.00)	52.69*** (15.07)	34.37** (12.93)	-14.57* (8.69)	-11.07* (6.15)
Observations	2,296	838	1,429	456	854	4,515	653	3,190
R-squared	0.44	0.22	0.18	0.16	0.29	0.27	0.15	0.14

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1