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How much does it cost to stay at home?

Career interruptions and the gender wage gap in France.

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Abstract

Childbearing and subsequent interruptions are more and more often identified as one of the major causes of the persistence of a gender wage gap. The time spent out of the labour market to raise children may result not only in women accumulating less professional experience than men on average, but also in a pay penalty. Children can also have indirect effects on their mothers' wages by influencing their choice of occupation, or the promotions or positions they're offered, or making them opt for part-time work or more flexible working conditions often associated with less paid jobs. In this paper, we start an investigation of the extent to which children have direct and indirect effects in the gender wage gap in France, with special attention to their impact on the accumulation and composition of individuals' human capital. It is generally difficult to measure this impact, because it requires individual data on the composition of experience - including time out of employment - that are rarely available. The new French survey "Families and Employers" (Ined, 2005) provides this information. We first look at men's and women's returns to potential and actual experience, then penalties associated to unemployment and time out of the labour market. We find that once controlled for the jobs' characteristics and selection into employment, there is no gender differential in the returns to work experience, but a penalty attached to time out of the labour market which affects only women. We don't find any direct negative impact of children on women's current hourly wage at the mean; when an impact appears at some points of the wage distribution, it is positive. We find, for a sub-sample of men and women aged from 39 to 49, that the wage gap between men and women who have never interrupted their participation in the labour force is entirely "unexplained", while the wage gap between women who have never interrupted and women who have had interruptions is entirely "explained".

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1. Introduction and background

According to human capital theory, the longer the time spent in education, at work and in training, the higher the wage an individual can expect in the labour market. This is the basis of mincerian-type wage equations. In this framework, the explained part of the gender wage gap is assumed to result from men/women differences in human capital. Now that women's education level is, in several countries, at least equivalent (if not higher) to that of men, the main source of gender differences in human capital lies in the time men and women spend out of the labour market. The main reason for this is that progress towards gender equality has not reached all the areas of the division of labour, and it's still massively women who take time out to care for young children (the point could be extended to elder parents' care, but it's not our question here).

There are several reasons why children might influence their mothers' earnings, and in turn the average women's wage: children can have a direct influence on their mothers' productivity (Becker, 1985) because they (plus the housework) leave mothers with less energy than men or other women. Children can also have an indirect influence: 1) mothers are more likely than childless women (not to speak of men) to have taken some time out of the labour market, and consequently to have accumulated less human capital; it is also possible that employment breaks not only result in foregone experience but in an additional penalty that would be interpreted as the effect of a depreciation of skills (Mincer & Polachek, 1974). 2) Mothers are also more likely to have been or to be working part-time, which in turn may reduce work opportunities, or to have chosen jobs or enterprises that are more "family-friendly" (or simply closer to home or school) at the cost of a better pay (Filer, 1985). 3) Mothers may be discriminated on the labour market (*i.e.* statistical discrimination). 4) Being a mother or having a career might be related to some unobservable difference between different types of women – put in other words, women would come in two types: the intrinsic mothers and the intrinsic workers (Hakim, 2003). This point has been largely studied empirically with various results and no strong evidence was found to support this idea. Some studies have not found a significant heterogeneity bias (Waldfogel, 1998, Albrecht and al, 1999 and Neumark & Korenman, 1994). On the other hand, Budig & England, 2001, Datta Gupta & Smith (2001) and Waldfogel, 1997 suggest that women with lower unobserved earning power are more likely to have children.

The impact of children on wages have been investigated since the mid-1990s in the "family gap" literature – though not much in France – and increasingly under the question of the impact of a family gap in pay as possible explanation for the stagnation of the gender wage gap after a historical trend of fall (Waldfogel, 1997, 1998; Harkness & Waldfogel, 1999; Datta Gupta & Smith, 2001; Davies & Pierre, 2005; Sigle-Rushton & Waldfogel, 2007). Cross-country studies show that the existence and extent of such a family pay gap – actually mostly a children pay gap - is far from uniform: while it seems especially large in UK, followed by the United-States, Australia, Canada, then Germany, then Finland and Sweden (Harkness & Waldfogel, 1999), it appears to be non significant for the two firstborn children in Belgium, France, Denmark, Portugal or Italy (Davies & Pierre, 2005).

In France, previous studies on the impact of career interruptions on wages were primarily addressing the question in terms of human capital and occupational segregation (Bayet, 1996; Colin, 1999; Le Minez & Roux, 2002), and studies of the gender wage gap did not especially seek to measure a family gap (Meurs & Ponthieux, 2000, 2007). The small number of studies on the family gap can partially be explained by the relative high female participation rate and the relatively low gender wage gap compared to the other European countries. It is only recently that the influence of parenthood on work and pay are looked at explicitly (Couppié & Epiphane, 2007). This recent interest could be motivated by the change in the parental leave allowance in 1994[1] which has made employment breaks after childbearing longer (Pailhé & Solaz, 2006).

There are few appropriate data set to study the family wage gap. Actually, the main French panel on individual's wages (the DADS, based on employers annual declarations) does not provide detailed information other than their work experience (especially, there is no information on the type of time out of employment), is rather poor in terms of individual characteristics, and does not include public sector employees. With the exception of occasional surveys (*e.g*. "Enquête Jeunes et carrières" in 1997), other data sources (*e.g*. the LFS) which are richer in individual information and include the public sector, provide no better information on the actual work experience and the contents of the employment breaks. The novelty of the data we're using in what follows (Enquête Familles et Employeurs, INED 2005 – more in section 2.1) is that respondents were asked about their activity history since the age of 18, so that we are able to have a more accurate measure of their actual experience (including employment breaks distinguished by reasons) than with other datasets. This information is of central interest if one wants to verify the existence and extent of a family gap, or to measure its impact in the overall gender wage gap, and of course to sort out between various explanations. The main drawback of the dataset is that it is a cross section, consequently we have information only on the wage at the time of the interview.

In what follows, we present some first results of a study in progress, in which we start by examining two aspects of the question of a family wage gap in France:

- firstly, we investigate the impact of the measure of experience used in a wage equation on the estimation of returns to experience. We argue that employment breaks play on the individuals' wages not only in reducing their amount of work experience compared to workers who have spells out of work, but also in depreciating their existing human capital. Therefore, not taking the composition of the total experience into account means that any period - whether at work or not - is taken at the same value. This can bias the returns to experience and the direct impact of children. It is also important to control as much as possible for the current employment characteristics. Finally, we have to take into account possible selection effects, and our data provide a very reasonable quantity of information for this. The results suggest that there is no direct impact of children on women's current wages – while we obtain the usual positive impact for men.

- Secondly, we propose a methodology aimed at evaluating the influence of a family (children) gap in the overall gender wage gap. It consists in decomposing the overall wage gap into two components:

[1] It was extended to the second child whereas it was only available from the third child before.

the wage gap between men and women who have never taken time out of the labour market, and the wage gap between women without and women with labour market interruptions; we call this last one an “interruption wage gap”. Applying this method to a sub-sample of workers aged from 39 to 49, we find that the men/women wage gap remains “unexplained” while the “interruption wage gap” is entirely due to differences in the observed characteristics.

The paper is organized as follows: section 2 gives more details on the dataset and some descriptive statistics, section 3 presents, step by step, the methodology and results, and section 4 gives a few elements of conclusion.

2. Data and descriptive statistics

2.1. Data

The data used for this study is the French “Enquête Familles et Employeurs” (Families and Employers Survey, EFE after), conducted by INED in 2005[2]. A sample of 9547 individuals (5107 women and 4440 men) aged from 20 to 49 was interviewed. We are interested in paid workers and potential workers, so we drop those who were either students or retired or self employed at the time of the interview. Once restricted to observations with no missing information for the whole set of variables used in the analysis, and for paid workers to those who work at least 10 hours per week (in order to avoid occasional participation in employment) our sample counts 7562 individuals, of whom 6049 were in salaried employment at the time of the survey (3015 women and 3034 men).

Given the questions we address, the great interest of this dataset is the retrospective information it provides on the individuals’ activity status since they were 18 years old. This information, gathered thanks to a calendar, is based on the respondents’ situations that have lasted at least 6 contiguous months. Seven situations are possible: employment - distinguishing part-time and full-time work, unemployment, parental leave, other economic inactivity, studies or training, military service, and combination of short spells of employment / training with short spells of unemployment. For each of them, the respondents were asked to indicate the corresponding years of occurrence[3]. From this calendar and two other variables (the end year of initial education and the year of entry in the present job) we draw all the variables relating to an individual activity history. Below is a brief description of these variables:

[2] There are in fact two surveys, one at the individuals level (a household file) and one at the employers level, the employers being those of the individuals employed at the time of the survey. We have only used here the information from the household file and intend to use the matched employer-employee data in a further step.

[3] There are two possibilities to have more than one situation for a given year: firstly, some situations are not exclusive (for example, studies+unemployment); secondly, a 6 months period starting on year t and ending on year t+1, the interviewers were instructed to tick the two years. It can be that more than one status is identified per year. When this was the case, we have divided the year by the number of situations identified and imputed to each situation a duration equal to the corresponding fraction of year.

- potential experience is the most basic measure of experience as the number of years since the end of initial education; since we know the number of years spent in the current job, we have broken down this basic measure into two components: potential experience minus tenure (EXPP) and tenure (ANCI).

- the actual experience is the number of years effectively spent at work which, as previously, may be divided into two parts : tenure (ANCI) and work experience previously accumulated (EXPV). Two types of breaks are distinguished: the number of years unemployed (NBCHO) and the number of years out of the labour market (NBINAT). At this step, we have grouped all the periods out of the labour market in NBINAT, which gives a somewhat different contents for men and women, and also between older and younger men: for women, the years out of the labour market are mostly periods of parental leave and other economic inactivity, while for men they are mostly periods of training (including for the older in the sample the compulsory year of military service, which was suppressed in 1996).

In addition, we also use in some specifications a dummy variable indicating whether the years of actual work experience include years of part-time work (TPPASS).

The calendar also gives a date for some major life events (leaving the parent's home, couple formation, separation, marriage, child births, etc.). This last information is particularly interesting because it allows to know the number of children a person has had, and not -as in many cross-section datasets- only the number of children currently living in the household.

The dataset contains also all the usual socio-demographic information (education, age, household type, region of living, occupancy status, etc.) and for those employed at the time of the survey, information on the job's characteristics (monthly wage, weakly hours, time status, public/private sector, industry, size of the enterprise, etc.).

2.2. Statistics

In our sample, the share of women in paid employment is high but lower than that of men: respectively to 72% and 89% (table 1a). About 10% of men and women are unemployed, and while practically no men are inactive, this is the activity status of 17% of women. This percentage increases with the number of children: nearly no childless women are inactive, they are respectively one out of ten among mothers of 1 child, two out of ten for mothers of 2 children and nearly four out of ten for mothers of 3 children and more.

Among wage earners, there are substantial differences by gender in the average weekly working hours (Table 1.b). The gender gap in hours increases with the number of children, since it grows with the number of children for men, whereas it decreases for women. This gap is in part explained by part-time work, which is female-dominated: 97% of male wage earners are full-time workers; this is the case of 73% of female wage earners. Moreover, women's propensity to work full-time decreases with the number of children: 86% of childless female wage earners work full-time, and respectively 80%, 66% and 58% of mothers of one, two and three children and more. Part-time mothers have usually one weekday out of work. Occupational segregation by gender is rather marked in France; for instance, the share of women working in the public sector is 33%, and that of men is 22%. The other sample characteristics are in appendix 1.

The female/male hourly pay ratio varies a great deal by family status (Table 1.b). Childless women do very well (96% of men average age), while mothers' relative pay is lower and falls with the number of children, from 89% for one child mothers to 81% for mothers of 3 children and more.

Table 1a – Activity status of men and women by number of children (%)

	Men					Women				
	Total	0 child	1 child	2 children	3 children +	Total	0 child	1 child	2 children	3 children +
Employed	89.1	81.1	91.3	95.9	91.2	72.0	80.1	78.8	73.5	54.0
Unemployed	10.6	18.5	8.6	4.0	8.1	10.9	17.3	10.0	8.0	9.9
Out of the labour force	0.3	0.4	0.2	0.1	0.7	17.0	2.5	11.2	18.5	36.1
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	3404	1167	665	1007	565	4186	946	888	1471	881

Source: EFE 2005.

Table 1b –Average hourly wage and weakly hours, by gender and number of children

	Men					Women				
	Total	0 child	1 child	2 children	3 children +	Total	0 child	1 child	2 children	3 children +
Weakly hours	39.6	39.1	39.7	40.0	40.0	34.1	36.2	34.7	33.1	32.0
Full-time (%)	97	96	96	97	98	73	86	79	66	58
Hourly wage (€)	40.9	36.8	41.0	43.4	44.2	36.4	35.4	36.5	37.2	35.9
Wf/Wh						89%	96%	89%	86%	81%
N	3034	946	607	966	515	3015	758	700	1081	476

Source: EFE 2005.

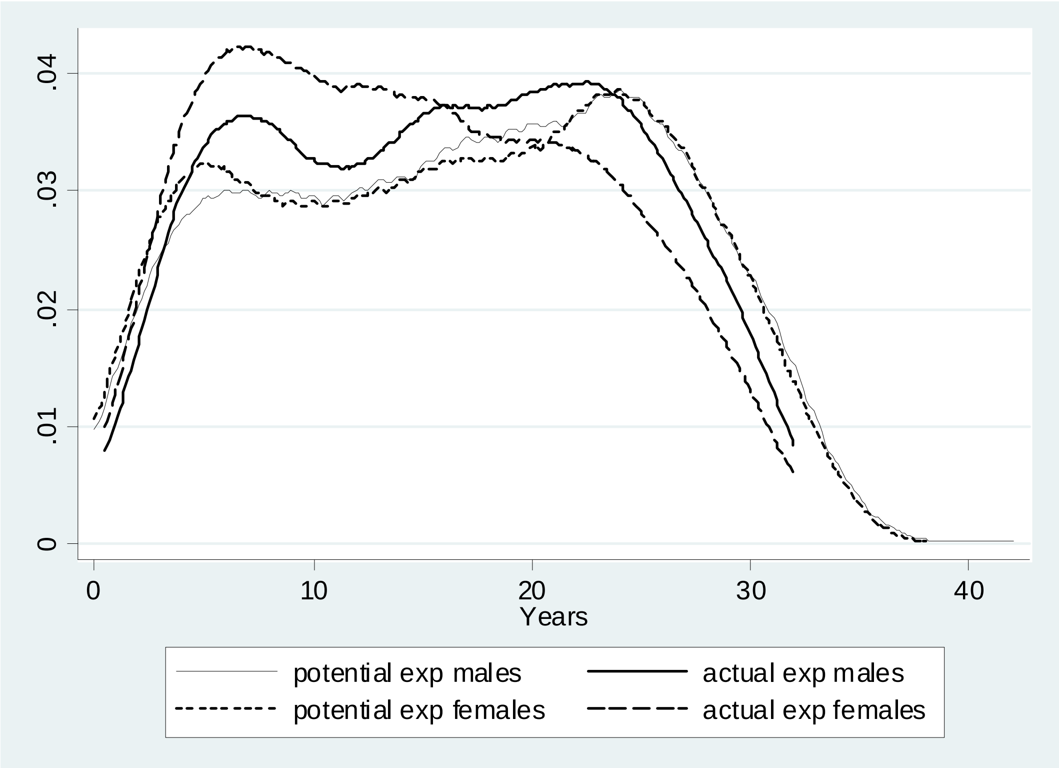
As for the measure of potential experience, it shows no difference by gender (7.6 years for men and women), but the actual work experience and tenure are longer for men (see table 2 & graph 1). It is noticeable that tenure is high for both men and women, about 9 years on average, which is more than the experience accumulated before the current job; this reflects the rather low external mobility in France. As expected, the average number of years out of the labour force is higher for women than for men, amounting to nearly two years on average and varying with the number of children.

Table 2 – Individual activity history, by gender (average number of years)

	Men	Women
Potential exp (minus tenure)	7.6	7.6
Actual exp (minus tenure)	6.8	5.7
Tenure	9.4	9.1
Unemployment	0.3	0.5
Out of labour force	0.9	1.9

Source: EFE 2005.

Graph 1. Potential and total experience – Wage earners, males and females



3. Methodology and results

The empirical investigation is conducted step by step. First, the impact of the type of measure of experience is observed. Then we tackle the question of a children gap, while the actual experience is taken into account and the selectivity bias corrected. We analyse this children gap at the mean and over the wage distribution. Finally, we investigate the impact of employment breaks into the gender gap.

3.1. Impact of the measure of experience: models of human capital.

In order to reassess the impact of the measure of experience in a gender wage gap cross-sectional analysis, we start with a very basic wage equation, which includes only human capital variables. We test three alternative specifications: in the first one, only the level of initial education, the number of years of potential experience and tenure are included (1). In the second one, potential experience is replaced by actual work experience (2), and in the third one, potential experience is detailed into its components, including actual work experience, unemployment and inactivity (3). In all the specifications, we adopt a quadratic form (see tables in appendix for the complete set of results).

The dependent variable is the logarithm of the hourly wage (Lwh, computed from the monthly wage and number of hours usually worked per week). The equations are estimated for women and men separately.

Our basis is the three following specifications, which differ only in the way "experience" is measured:

$$Lwh = a\ EDUC + b\ EXPPV + c\ ANCI + e \qquad (1)$$

$$Lwh = a\ EDUC + b\ EXPV + c\ ANCI + e \qquad (2)$$

$$Lwh = (2) + d\ NBCHO + g\ NBINAT \qquad (3)$$

With EDUC a set of dummy variables indicating the highest diploma obtained by the individual (5 levels of education, EDUC1 the lowest), and e the error term.

We expect the returns to EXPV to be higher than to EXPPV, the returns to ANCI to remain unchanged, and the existence of a penalty for the periods out of work.

The results (table 4) show, firstly, that the estimation yields higher returns to work experience than to potential experience – as expected –, this for women as well as for men, while the returns to tenure are stable. At this step, without controlling for many structural differences, returns to experience are higher for men than for women. However the gender difference in returns decreases with better measures of experience: men's returns are three times higher than women's with model (1), twice higher with model (2), and above one and a half time higher with model (3). Multiplied by the gender difference in length of experience, this illustrates the scope for overestimating the "unexplained" part of the gap in a decomposition when only the most basic measure of experience is available.

Secondly, there is a penalty for the time spent out of the labour market, but only for women, and it appears to be of small magnitude; thirdly, there is a clear penalty on past unemployment, here for men as well as for women, even higher in the case of men.

Table 4 - Returns to experience

	Women			Men		
Specification	(1)	(2)	(3)	(1)	(2)	(3)
EXPPV	0.007 (2.98)**			0.020 (8.09)**		
EXPV		0.011 (4.12)**	0.014 (5.29)**		0.022 (7.87)**	0.023 (8.34)**
ANCI	0.025 (10.97)**	0.027 (12.08)**	0.027 (11.92)**	0.025 (9.92)**	0.026 (10.61)**	0.026 (10.27)**
NBCHO			-0.042 (5.21)**			-0.078 (6.03)**
NBINAT			-0.008 (2.30)*			0.011 (1.48)
Observations	3015	3015	3015	3034	3034	3034
R-squared	0.35	0.37	0.38	0.33	0.33	0.34

Absolute value of t statistic in parentheses - * significant at 5%; ** significant at 1%.

3.2. Impact of children at the mean.

Our second question is that of the impact of children on their parents' wages, and on the returns to experience. Having children at home may have a direct impact on their parents' productivity, while having had children may play on the selection into employment, and can cause adjustments in the type of job (part-time work, public sector – known for being more 'family-friendly', a position with less responsibility, etc.). As women bear the main share of family responsibilities, the effects of children are expected to be quite different for women and for men.

There again, we use alternative specifications: in the first one, we just add the number of children had to equation (2), then we do the same starting from equation (3), then we add a regressor LAMBDA to correct for selectivity effects in employment following Heckman's two-steps procedure (Heckman, 1979):

Lwh = (2) + f NBENFT (2a)

Lwh = (3) + f NBENFT (3a)

Lwh = (3a) + t LAMBDA (3c)

LAMBDA (the inverse Mill's ratio) is obtained from a probit equation. The selection equation (estimated separately for men and women) includes: six age dummies, education dummies, indicators of past unemployment and past inactivity, the number of children and a dummy if the person has at least 1 child aged under 6, a dummy for living in couple, for home ownership, dummies to control for being an immigrant, for being a disabled person, and the father's and mother's activity status during adolescence –which stand with home ownership as the exclusion variables[4].

As is usual, we obtain a positive and significant impact of children on men's wages with any specification (table 5); the returns to experience are slightly lower with model (3c) than with models (2) or (3). On the side of penalties, the impact of unemployment is divided by two (and that of inactivity remains non significant); all this suggests that children and LAMBDA capture some of the unobserved heterogeneity in individual characteristics. For women, the picture is somewhat different: it seems that there is no significant impact of children on the current wage as long as the experience is not fully specified including time out of work. Once the components of periods out of work are introduced (models 3a and 3c), the effect of children on the current wage turns significant and positive, and this result holds once corrected for a selection bias. Unlike men, this does not affect the returns to experience, the unemployment penalty (NBCHO) and the penalty for time out of the labour market (NBINAT) which remain at the same level as in model (3).

Table 5 – Experience and children -I

	Women			Men		
Specification	(2a)	(3a)	(3c)	(2a)	(3a)	(3b)
EXPV	0.011	0.014	0.014	0.019	0.020	0.019
	(3.98)**	(5.04)**	(5.01)**	(6.63)**	(7.20)**	(6.64)**
ANCI	0.027	0.025	0.025	0.023	0.023	0.020
	(11.49)**	(10.54)**	(10.17)**	(9.05)**	(8.83)**	(7.51)**
NBCHO		-0.043	-0.044		-0.076	-0.035
		(5.33)**	(5.20)**		(5.89)**	(2.12)*
NBINAT		-0.012	-0.013		0.009	0.007
		(3.24)**	(3.21)**		(1.14)	(0.85)
NBENFT	0.005	0.019	0.017	0.028	0.027	0.024
	(0.96)	(3.12)**	(2.60)**	(5.07)**	(4.85)**	(4.27)**
LAMBDA			0.015			-0.195
			(0.43)			(3.87)**
Observations	3015	3015	3015	3034	3034	3034
R-squared	0.37	0.38	0.38	0.34	0.35	0.35

Absolute value of t statistic in parentheses - * significant at 5%; ** significant at 1%.

In a last set of specifications, we add several regressors to control for relevant characteristics of the current job - summarized by JOBset in the models below – which could capture some indirect effects of children. The current job is characterized by taking into account the time status (4 dummies: TPD1=full-time work, TPD2="long" part-time *i.e.* at least 80 % of a full-time work, TPD3= half-time and TPD4="short" part-time *i.e.* less than 15 hours per week), a dummy for working in the public sector (PUBLIC), the occupational status (4 dummies from CS2, the highest level, to CS5 the lowest), and whether the person is in a position of responsibility (RESP). We also include controls for the enterprise size (7 dummies), living in the Paris area (IDF) and being an immigrant.

We still proceed by step, first adding JOBset to model (2a), then to models (3a) and (3b) which gives model (4), our widest specification:

Lwh = (2a) + h JOBset + controls + e (2b)

[4] The estimations show the expected effects of education (higher probability of particpation for the higher levels), and of children (negative and significant for women, not significant for men) – the detailed results are presented in Appendix 3. The sample means are reported in Appendix 1.

Lwh = (3a) + h JOBset + controls + e (3b)

Lwh = (3c) + h JOBset + controls + e (4)

We report in Table 6 below the results obtained with these augmented specifications (detailed results are in Appendix 2).

Table 6 – Experience and children-II

Specification	Women (2b)	Women (3b)	Women (4)	Men (2b)	Men (3b)	Men (4)
EXPV	0.009	0.011	0.012	0.013	0.014	0.013
	(3.82)**	(4.60)**	(4.63)**	(4.93)**	(5.47)**	(5.07)**
ANCI	0.021	0.019	0.020	0.016	0.016	0.014
	(9.83)**	(9.16)**	(8.92)**	(6.77)**	(6.65)**	(5.78)**
NBCHO		-0.030	-0.031		-0.061	-0.035
		(4.07)**	(4.06)**		(5.13)**	(2.28)*
NBINAT		-0.007	-0.008		0.006	0.005
		(2.12)*	(2.21)*		(0.86)	(0.68)
NBENFT	0.002	0.011	0.009	0.023	0.022	0.020
	(0.51)	(2.02)*	(1.54)	(4.47)**	(4.34)**	(3.90)**
LAMBDA			0.020			-0.125
			(0.63)			(2.68)**
Observations	3015	3015	3015	3034	3034	3034
R-squared	0.50	0.50	0.50	0.46	0.46	0.46

Absolute value of t statistic in parentheses - * significant at 5%; ** significant at 1%.

Adding information on the current job appears to have a different impact in the case of women and men: for women, the biggest impact is the change in returns to children, which is about divided by two if we compare model (3a) to (3b), or (3c) to (4), then in the penalty for time out of the labour market, which decreases by about one third. For men, the main impact is in the decrease of returns to experience, by about one third, and to tenure.

In the end, it seems that there is almost no more gender differential in returns to work experience with model (4), and the penalty for unemployment is about the same for men and for women. The main gender differences are in the size of the impact of children (about twice higher for men), in the time-out penalty, non existent for men, small but significant in the case of women, and in the return to tenure, higher for women.

3.3. Impact of children over the wage distribution.

Do these results "at the mean" hold at various points in the wage distribution? In order to verify, we run quantilic regressions (QR) which is appropriate when one suspect that the (marginal) effect of the covariates on the dependent variable can differ at different points of the wage distribution. This approach has been recently widely used in the context of wage equations (see among others Chamberlain (1984), Albrecht (2001)). We applied the methodology developed by Koenker & Basset (1978).

Assume that the θth quantile of the conditional distribution of wages is a linear function of the set of covariates x: $q\theta = x\beta(\theta)$. Koenker & Basset (1978) have shown that β can be estimated at each quantile as the solution to:

$$\min_{\beta(\theta)} \{ \sum_{i:\, y_i \geq x_i\beta(\theta)} \theta|y_i - x_i\beta(\theta)| + \sum_{i:\, y_i < x_i\beta(\theta)} (1-\theta)|y_i - x_i\beta(\theta)| \}$$

The specification used for these regressions is the same as in model (4), except that the occupation dummies and the indicator for a position of responsibility are dropped from the set of covariates. We do not correct for participation bias at this stage. The results for variables of interest are in Table 7[5].

Table 7 - Experience and children-III

Quantile:	10	20	30	40	50	60	70	80	90
WOMEN									
EXPV	0,009	0,010	0,013	0,011	0,011	0,011	0,013	0,012	0,015
	(2.50)*	(3.54)**	(4.78)**	(3.99)**	(3.74)**	(4.50)**	(4.23)**	(3.05)**	(3.35)**
ANCI	0,017	0,023	0,021	0,022	0,022	0,022	0,024	0,022	0,024
	(5.26)**	(9.43)**	(9.20)**	(9.27)**	(8.74)**	(10.73)**	(9.22)**	(6.29)**	(6.31)**
NBCHO	-0,043	-0,036	-0,03	-0,032	-0,033	-0,029	-0,031	-0,027	-0,03
	(4.18)**	(4.44)**	(3.98)**	(3.86)**	(3.74)**	(4.01)**	(3.42)**	(2.13)*	(2.39)*
NBINAT	-0,017	-0,013	-0,008	-0,007	-0,009	-0,01	-0,01	-0,01	-0,003
	(3.06)**	(3.07)**	(2.25)*	(1,88)	(2.08)*	(2.95)**	(2.50)*	(1,88)	(0,59)
NBENFT	0,017	0,007	0,012	0,015	0,018	0,028	0,018	0,016	0,018
	(2.14)*	(1,08)	(2.10)*	(2.49)*	(2.79)**	(5.28)**	(2.78)**	(1,76)	(1,82)
Observations	3015	3015	3015	3015	3015	3015	3015	3015	3015
MEN									
EXPV	0,016	0,011	0,014	0,012	0,013	0,015	0,017	0,019	0,032
	(4.60)**	(3.72)**	(4.55)**	(4.50)**	(4.05)**	(5.36)**	(5.36)**	(4.73)**	(5.39)**
ANCI	0,02	0,021	0,019	0,021	0,018	0,02	0,019	0,02	0,025
	(6.19)**	(7.94)**	(6.71)**	(8.47)**	(6.49)**	(7.83)**	(6.69)**	(5.68)**	(5.14)**
NBCHO	-0,056	-0,037	-0,038	-0,05	-0,059	-0,066	-0,08	-0,1	-0,1
	(3.92)**	(3.01)**	(2.66)**	(4.23)**	(4.42)**	(5.61)**	(5.87)**	(5.92)**	(4.14)**
NBINAT	0,007	0,014	0,005	0,009	0,007	0,008	0,005	-0,004	0,001
	(0,78)	(1,91)	(0,59)	(1,19)	(0,8)	(1,04)	(0,6)	(0,35)	(0,1)
NBENFT	0,024	0,024	0,022	0,024	0,026	0,028	0,028	0,032	0,033
	(3.16)**	(4.24)**	(3.52)**	(4.46)**	(4.23)**	(5.29)**	(4.68)**	(4.21)**	(2.98)**
Observations	3034	3034	3034	3034	3034	3034	3034	3034	3034

Absolute value of t statistic in parentheses - * significant at 5%; ** significant at 1%.

If we look first at the returns to experience by gender, the main result is that it's for the top and the bottom deciles that we observe the largest difference; the coefficients estimated for the women and for the men are very close from deciles 2 to 5, then the gap increases from decile 6 on, and at the 9th decile, the men's coefficient is twice that of women.

The next difference is in the unemployment penalty: it is rather stable along the wage distribution for women – the highest penalty being at the bottom, while for men it is increasing from decile 4 on, the highest penalty being at the top of the distribution. From decile 6 on, it is at least twice that estimated for women, and three times higher at the two top deciles. As for the penalty for time out of the labour market, which concerns only women, it is the highest at the two bottom deciles, then tends to decrease, and disappears at the two top deciles.

At last, the impact of children, steadily positive and significant for men tends to increase from bottom to top, when its impact is more erratic for women: the highest coefficients are observed at the 1st

[5] Detailed results on request.

decile, then from deciles 5 to 7, and it becomes non significant at the two top deciles. Added with the penalty for the periods of inactivity, this suggests that important selection and/or composition effects might play on the wage structure of women.

3.4. The gender wage gap and the interruption gap

In this last part of the study, we go beyond basic comparisons between men and women, and turn to a decomposition of the gender wage gap in which we seek to evaluate the impact of a family gap in pay. As we have already mentioned, such a gap does not seem to exist in France, but some of our former results (and results in other French studies) suggest strongly that children are not neutral on the employment gap (see table 1), and on the wage differential between men and women.

The notion of family gap refers to differences between women that are caused by their family status, *i.e*. whether they are married/cohabiting and have children or not. We focus in what follows on the effect of having children or not. Our problem with cross-sectional data is that it makes no sense to compare women with or without children, because those who do not have children can be either women who have not yet had the children they'll have or women who never will have children. One solution would be to restrict our sample to women in the oldest age group of our sample, say 39-49, in order to select women for which it is likely that they've already had all the children they'll have in their life. But in so doing, we oppose a very small group of childless women who in addition are "special" in their individual characteristics (often highly educated, they also tend to have specific family histories – see Robert-Bobée, 2006) to a large group of "mothers". One other reticence about this option is that since children do not seem to have a determinant direct impact on their mothers' current wages, it seems more interesting to focus on the indirect effects they may have, one of them being that they make some – not all - mothers interrupt their careers. This effect is self-evident in the following graph, which represents 39 to 49 years old women's actual work experience by number of children (graph 2).

So we keep to our subsample of "old" women, but instead of opposing mothers to nonmothers, we oppose those who have spent time out of the labour market to those who have never interrupted their participation in the labour force.

The current activity profile of these women is somewhat different from that of the whole sample: they are more often at work (76 %) and less often unemployed (8 %) or inactive (16 %) – to be compared with statistics in Table 1a.

Graph 2 – Actual work experience of women aged 39-49 in paid employment

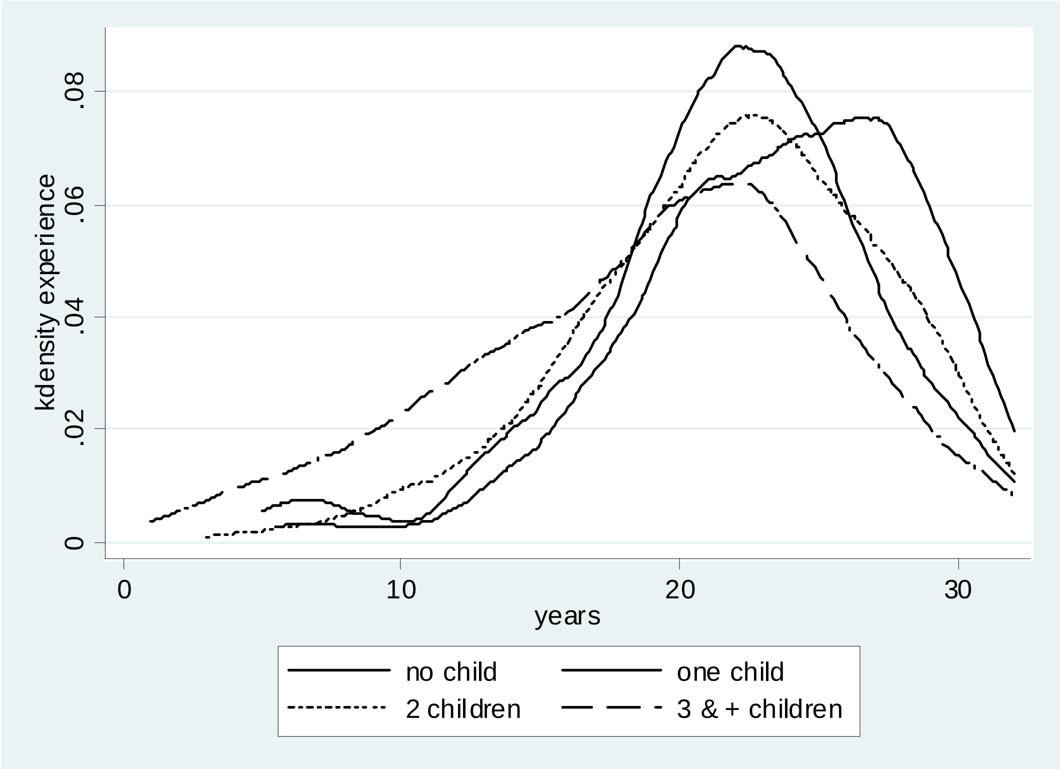


Table 8 below indicates how those currently at work are distributed by number of children and labour market interruption. The relationship between children and interruptions appears clearly (93 % of women who had job break have had at least one child), but we see at the same time that a large majority of those who had no break have had also at least one child (85 %) and that a meaningful proportion (37%) of women who have had at least one child have never interrupted their labour force participation. The big difference between those who have interrupted and those who have not is in the number of children they have had: at one end, only 7 % of those who have spent time out of the labour market are childless, *vs*. 15 % of those without interruption; at the other end, respectively 34 % *vs*. 11 % have had more than two children.

Table 8 – Children and career interruptions among women aged 39-49 in paid employment (%).

Number of children :	0	1	2	3+	Subtotal >0	Total
INTERRUPTION	6.8 41.5	15.3 46.5	43.5 59.1	34.4 82.7	93.2 63.0	100.0 60.8
NO INTERRUPTION	15.0 58.5	27.3 53.5	46.6 40.7	11.2 17.3	85.0 37.0	100.0 39.2
All	10.0 100.0	20.0 100.0	44.7 100.0	25.3 100.0	100.0	100.0 100.0

Source: EFE 2005.

We want to measure the articulation of the pay differential between these two groups of women and the gender wage gap. To investigate this articulation, we consider that the gender wage gap is made of two gaps: a first gap between the two groups of women, and a second gap between the group of women who have no interruption and men. Of course, consistency requires that we restrict the men's sample to those of the same age group as women (39-49). This could cause the gender wage gap to be smaller than on average, because men's and women's wage evolutions are different over the working life; they tend to be more favourable to young men than to young women, but from 30 years old on, it is the contrary (even though it is not enough for women's wages to catch up – *cf*. Dupray & Moullet, 2005).

In order to write our decomposition, we start by writing the "interruption" wage gap as follows:

$$\overline{W}_f = (1-k)\,\overline{W}_{f1} + k\,\overline{W}_{f2} \qquad (i)$$

where f_1 and f_2 are respectively the women without and with an interruption, and k is the weight of women who have had an interruption,

then we replace $\overline{W}_f$ in the expression of the gender wage gap:

$$\overline{W}_m - \overline{W}_f = \overline{W}_m - [(1-k)\,\overline{W}_{f1} + k\,\overline{W}_{f2}],$$

which is equivalent to $\overline{W}_m - \overline{W}_f = \overline{W}_m - \overline{W}_{f1} + k\,(\overline{W}_{f1} - \overline{W}_{f2})$ *(ii)*

On this basis, we decompose ($\overline{W}_m - \overline{W}_{f1}$) and ($\overline{W}_{f1} - \overline{W}_{f2}$) using the standard Oaxaca-Ransom method (Oaxaca & Ransom, 1994). For each differential, the wage gap is as follows:

$$\overline{W}_{g1} - \overline{W}_{g2} = \overline{X}'_{g1}(\hat{\beta}_{g1} - \hat{\beta}) + \overline{X}'_{g2}(\hat{\beta} - \hat{\beta}_{g2}) + \hat{\beta}(\overline{X}_{g1} - \overline{X}_{g2})' \qquad (iii)$$

where $g1$ and $g2$ stand for any pair of groups - their value is respectively (m, $f1$), then ($f1$, $f2$), $\overline{X}\,g$i are the average characteristics of each group and $\hat{\beta}\,g$i their estimated returns.

The two first terms in *(iii)* correspond to the so-called "unexplained" gap, that is the differential between the returns of each group ($\hat{\beta}\,g$i) and the returns of a "norm" ($\hat{\beta}$).The first term in corresponds to the "advantage" of group 1, the second term to the "disadvantage" of group 2 and their addition accounts for the "unexplained" part of the wage gap. ($\hat{\beta}$) is obtained from the wage equation of the pooled sample. The last term in *(iii)* is the explained gap, that results from differences in characteristics between the two groups, these differences being valued at the returns to the norm.

The set of covariates is basically that of model (4), estimated firstly with no controls for the occupation (4a in the tables below), then with the occupation dummies (4b), then with a correction for selection in employment[6]. For this full specification with a correction for selectivity in employment, we adapt the specification proposed by Neuman and Oaxaca (1998), which combines Oaxaca's and Heckman's methods. Selection is taken into account in the components of the wage gap in the form of a term ($\hat{\theta}_{g1}\hat{\lambda}_{g1} - \hat{\theta}_{g2}\hat{\lambda}_{g2}$) that we add to *(iii)*[7].

[6] The probit equations are re-estimated for the subsamples of women and men of the age group 39-49.
[7] Neuman and Oaxaca examine different ways of introducing this term into the breakdown; one of these consists in treating selectivity as a separate component. This is the simplest approach, as it requires no *a priori* hypothesis about whether selectivity has more influence on the characteristics or on the returns to characteristics.

Firstly, we examine the composition of the "interruption" gap, *i.e*. the wage differential between f_1-women and f_2-women, which amounts to 12 %. The f_2-women represent 60.8 % of the subsample of women. We use successively specifications (4a), (4b) and (4). The main result of the decomposition is that the differences in characteristics and selection explain all the gap (table 9 part a.). If we go into the detail of the "explained" gap (table 9 part b.), the differences in human capital account for at least two-third of it, up to more than 80 % when neither occupations nor selection are controlled for (with model 4a). Within human capital, the interruptions account for 54% when occupations are not controlled for (model 4a), 46 % when they are taken into account (model 4b), and 42 % when selection is taken into account too (model 4). All in all, the interruptions account for about % of the total wage differential.

Table 9 - Decomposition of the "interruption" wage gap between women aged 39-49.

Model:	(4a)		(4b)		(4)	
Raw differential (Lwh)	0,12		0,12		0,12	
Nobs	1347		1347		1347	
a. Components of the total gap		*%*		*%*		*%*
Explained	**0,15**	*128,4*	**0,14**	*124,1*	**0,10**	*85,5*
Unexplained	-0,03	*-28,4*	-0,02	*-24,1*	-0,01	*-5,6*
Selection	-	-	-	-	0,03	*20,1*
Total	0,12	*100,0*	0,12	*100,0*	0,12	*100,0*
b. Composition of the explained part of the gap		*%*		*%*		*%*
Education	0,01	*8,1*	0,01	*5,6*	0,006	*6,5*
Experience, tenure, unemployment	0,06		0,04		0,032	
Interruptions	0,07		0,05		0,028	
Total Human Capital	0,13	*85,2*	0,11	*74,3*	0,066	*59,6*
Number of children	-0,01	*-6,7*	-0,01	*-4,2*	-0,008	*-8,5*
Other	0,03	*21,5*	0,04	*29,9*	0,042	*42,5*
Total Explained	0,15	*100*	0,14	*100*	0,100	*100*

In a second step, we decompose the gender wage gap as described in *(ii)*. The total gender wage gap ($\overline{W}_m$ - $\overline{W}_{f1}$) amounts to 16,8 %, and is composed of

1/ a "gender" wage gap, which amounts to 9,7 %, between men and women who have no interruption (the f_1-women),

2/ the "interruption" gap ($\overline{W}_{f1}$ - $\overline{W}_{f2}$) decomposed above, that is 11,6 %. We verify that once the interruption gap weighted by k=0.608, the addition gives the total wage gap.

The results (table 10) are strikingly contrasted when we look at the composition of the two gaps: it's entirely "unexplained" between men and women, while as we've seen above, it's entirely explained (if we take selection as "explained") between women without and with interruptions.

Table 9 - Decomposition of the gender wage gap in the population aged 39-49.

Model	(4a)				(4b)				(4)			
	M vs. *f1*-W		f1-W vs. f2-W		M vs. *f1*-W		f1-W vs. f2-W		M vs. *f1*-W		f1-W vs. f2-W	
Raw differential*	0,10		0,12		0,10		0,12		0,10		0,12	
Nobs	1350		1347		1350		1347		1350		1347	
		%		*%*		*%*		*%*		*%*		*%*
Explained	-0,01	*-10,3*	**0,15**	*128,4*	0,03	*24,7*	**0,14**	*124,1*	0,02	*15,7*	**0,10**	*85,5*
Unexplained	**0,11**	*110,3*	-0,03	*-28,4*	**0,07**	*75,3*	-0,02	*-24,1*	**0,10**	*107,4*	-0,007	*-5,6*
Selection	-		-		-		-		-0,02	*-23,1*	0,023	*20,1*
total		*100,0*		*100,0*		*100,0*		*100,0*		*100,0*		*100,0*

* In the table above, we have not weighted the *f1-f2* estimated differentials. It is easy to verify that once they are, we retrieve the total gender wage gap.

4. Provisional concluding remarks

Children and subsequent interruptions have from a long time been cited as one of the major causes of the gender wage gap. The time spent out of the labour market to raise children may result not only in women accumulating less professional experience than men on average, but also in a pay penalty, while children can have other indirect effects on their mothers' wages by influencing their choice of occupation, or the promotions or positions they're offered, or making them opt for part-time work or more flexible working conditions often not associated with the best paid jobs.

In this paper, we start an investigation of the extent to which children have direct and indirect effects in the gender wage gap in France, with special attention to their impact on the accumulation and composition of individuals' human capital. It is generally difficult to measure this impact, because it requires individual data on the composition of experience - including time out of employment - that are rarely available. The new French survey "Families and Employers" (Ined, 2005) provides this information.

We first look at men's and women's returns to potential and actual experience, then penalties associated to unemployment and time out of the labour market. We find that once controlled for the jobs' characteristics and selection into employment, there is no gender differential in the returns to work experience, but a penalty attached to time out of the labour market which affects only women. Our second interest was the question of the existence of a significant family wage gap in France. Using various specifications, we don't find any direct negative impact of children on women's current hourly wage at the mean. Using quantile regressions, we look at the impact of the number of children along the wage distribution. We find no impact or if any, positive at some points of the wage distribution. This result goes along with previous case studies for France and cross-country comparative studies (OCDE, 2002; Davies & Pierre, 2005).

Finally, we find for a sub-sample of men and women aged from 39 to 49 that the wage gap between men and women who have never interrupted their participation in the labour force is entirely "unexplained", while the wage gap between women who have never interrupted and women who have had interruptions is entirely "explained".

At this stage of our study, we opt for a signalling interpretation of the “interruption” gap, which could in turn support a statistical-type discrimination affecting all women - including those who have never interrupted their participation in the labour force.

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Appendix 1. Descriptive statistics

Table 1. Wage earners –Females , Males

	Females		Males	
Variable	Mean	Std	Mean	Std
lwh	3,59	0,366	3,711	0,39
dipld1	0,23	0,423	0,181	0,39
dipld2	0,16	0,364	0,110	0,31
dipld3	0,19	0,395	0,158	0,36
dipld4	0,24	0,429	0,355	0,48
dipld5	0,17	0,379	0,196	0,40
expv	5,68	5,936	6,763	6,73
anci	9,08	8,052	9,388	8,14
nbcho	0,54	1,341	0,301	0,88
nbinat	1,89	3,612	0,939	1,26
nbinat2	16,62	59,925	2,478	10,83
nbenft	1,46	1,120	1,396	1,20
tpd1	0,73	0,444	0,971	0,17
tpd2	0,17	0,379	0,017	0,13
tpd3	0,09	0,282	0,010	0,10
tpd4	0,01	0,098	0,002	0,04
public	0,33	0,470	0,216	0,41
cs2	0,12	0,325	0,178	0,38
cs3	0,29	0,452	0,269	0,44
cs4	0,49	0,500	0,142	0,35
cs5	0,10	0,301	0,411	0,49
resp	0,17	0,375	0,329	0,47
tail1	0,35	0,477	0,284	0,45
tail2	0,15	0,355	0,140	0,35
tail3	0,21	0,410	0,237	0,43
tail4	0,13	0,336	0,140	0,35
tail5	0,06	0,239	0,074	0,26
tail6	0,10	0,296	0,125	0,33
idf	0,19	0,395	0,185	0,39
immi	0,06	0,238	0,069	0,25
Obs	3015		3034	

Table 2. Descriptive statistics. Total sample (wage earners, unemployed, inactive)

	Females Mean Std,				Females Mean Std,			
	Wage earners		Inact + unemployed		Wage earners		Inact+unempl,	
% employed	0,725				0,892			
tage5d1	0,069	0,253	0,112	0,315	0,076	0,265	0,267	0,443
tage5d2	0,141	0,348	0,151	0,358	0,138	0,345	0,158	0,365
tage5d3	0,186	0,389	0,198	0,399	0,183	0,386	0,183	0,387
tage5d4	0,205	0,404	0,223	0,417	0,208	0,406	0,123	0,328
tage5d5	0,209	0,407	0,172	0,377	0,207	0,405	0,134	0,341
tage5d6	0,190	0,393	0,144	0,351	0,188	0,391	0,136	0,344
dina	0,513	0,500	0,831	0,375	0,656	0,475	0,550	0,498
dcho	0,297	0,457	0,521	0,500	0,213	0,409	0,692	0,462
immi	0,060	0,238	0,143	0,350	0,069	0,253	0,134	0,341
nbenft	1,462	1,120	2,048	1,403	1,396	1,199	0,894	1,430
petit	0,263	0,441	0,469	0,499	0,313	0,464	0,218	0,413
handic	0,129	0,335	0,156	0,363	0,123	0,329	0,169	0,375
dipld1	0,233	0,423	0,122	0,328	0,181	0,385	0,123	0,328
dipld2	0,157	0,364	0,083	0,276	0,110	0,313	0,087	0,283
dipld3	0,194	0,395	0,161	0,367	0,158	0,365	0,147	0,355
dipld4	0,243	0,429	0,272	0,445	0,355	0,478	0,289	0,454
dipld5	0,174	0,379	0,362	0,481	0,196	0,397	0,354	0,479
couple	0,772	0,420	0,777	0,417	0,788	0,409	0,460	0,499
actm	0,397	0,489	0,318	0,466	0,383	0,486	0,322	0,468
actp	0,896	0,305	0,864	0,343	0,914	0,280	0,837	0,370
propri	0,595	0,491	0,442	0,497	0,573	0,495	0,341	0,475
Obs	3015		1146		3034		367	

Appendix 2.
Table 3. OLS wage equation

	FEMALES			MALES		
	(1)	(2)	(3)	(1)	(2)	(3)
Dipl 1	0.585	0.584	0.556	0.616	0.601	0.584
	(30.45)**	(33.38)**	(30.09)**	(30.62)**	(30.76)**	(29.74)**
Dipl 2	0.378	0.379	0.355	0.325	0.321	0.303
	(18.67)**	(20.01)**	(17.97)**	(14.32)**	(14.33)**	(13.52)**
Dipl 3	0.220	0.221	0.206	0.235	0.230	0.213
	(11.74)**	(12.39)**	(11.28)**	(11.53)**	(11.46)**	(10.58)**
Dipl 4	0.107	0.102	0.096	0.064	0.059	0.051
	(6.24)**	(6.14)**	(5.73)**	(3.90)**	(3.63)**	(3.16)**
Exppv	0.007			0.020		
	(2.98)**			(8.09)**		
exppv2	-0.000			-0.000		
	(1.01)			(4.20)**		
Expv		0.011	0.014		0.022	0.023
		(4.12)**	(5.29)**		(7.87)**	(8.34)**
expv2		-0.000	-0.000		-0.000	-0.000
		(0.11)	(1.17)		(3.48)**	(3.93)**
Anci	0.025	0.027	0.027	0.025	0.026	0.026
	(10.90)**	(12.08)**	(11.92)**	(9.84)**	(10.61)**	(10.27)**
anci2	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(3.50)**	(3.94)**	(4.16)**	(2.38)*	(2.65)**	(2.63)**
Nbcho			-0.042			-0.078
			(5.21)**			(6.03)**
nbcho2			0.003			0.008
			(3.77)**			(3.96)**
Nbinat			-0.008			0.011
			(2.30)*			(1.48)
Nbinat2			0.000			-0.000
			(1.58)			(0.40)
Constant	3.107	3.073	3.109	3.201	3.192	3.211
	(140.65)**	(152.60)**	(142.73)**	(144.05)**	(144.54)**	(143.62)**
Observations	3015	3015	3015	3034	3034	3034
R-squared	0.35	0.37	0.38	0.33	0.33	0.34

Absolute value of t statistics in parentheses
* significant at 5%; ** significant at 1%

Table 4. OLS wage equation

Model HK + Child	FEMALES			MALES		
	(2a)	(3a)	(3c)	(2a)	(3a)	(3c)
Dipl 1	0.586	0.554	0.559	0.601	0.584	0.564
	(33.23)**	(30.00)**	(26.61)**	(30.88)**	(29.83)**	(27.94)**
Dipl 2	0.381	0.353	0.357	0.322	0.305	0.284
	(19.99)**	(17.89)**	(16.22)**	(14.46)**	(13.65)**	(12.38)**
Dipl 3	0.222	0.206	0.209	0.232	0.215	0.196
	(12.42)**	(11.28)**	(10.61)**	(11.59)**	(10.71)**	(9.49)**
Dipl 4	0.103	0.095	0.098	0.062	0.054	0.039
	(6.18)**	(5.68)**	(5.55)**	(3.83)**	(3.36)**	(2.35)*
expv	0.011	0.014	0.014	0.019	0.020	0.019
	(3.98)**	(5.04)**	(5.01)**	(6.63)**	(7.20)**	(6.64)**
expv2	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.07)	(1.27)	(1.28)	(3.13)**	(3.63)**	(3.49)**
anci	0.027	0.025	0.025	0.023	0.023	0.020
	(11.49)**	(10.54)**	(10.17)**	(9.05)**	(8.83)**	(7.51)**
anci2	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(3.73)**	(3.62)**	(3.64)**	(2.15)*	(2.18)*	(1.55)
nbenft	0.005	0.019	0.017	0.028	0.027	0.024
	(0.96)	(3.12)**	(2.60)**	(5.07)**	(4.85)**	(4.27)**
nbcho		-0.043	-0.044		-0.076	-0.035
		(5.33)**	(5.20)**		(5.89)**	(2.12)*
nbcho2		0.004	0.004		0.008	0.004
		(3.80)**	(3.79)**		(3.77)**	(1.55)
nbinat		-0.012	-0.013		0.009	0.007
		(3.24)**	(3.21)**		(1.14)	(0.85)
nbinat2		0.000	0.000		-0.000	-0.000
		(2.00)*	(2.03)*		(0.36)	(0.06)
lambda			0.015			-0.195
			(0.43)			(3.87)**
Constant	3.069	3.107	3.098	3.191	3.211	3.275
	(148.87)**	(142.80)**	(103.68)**	(145.09)**	(144.16)**	(118.56)**
Observations	3015	3015	3015	3034	3034	3034
R-squared	0.37	0.38	0.38	0.34	0.35	0.35

Absolute value of t statistics in parentheses
* significant at 5%; ** significant at 1%

Table 5. OLS equation

	FEMALES			MALES		
	(1)	(2)	(3)	(4)	(5)	(6)
Dipl 1	0.288 (14.36)**	0.271 (13.20)**	0.276 (12.38)**	0.266 (11.50)**	0.258 (11.16)**	0.248 (10.55)**
Dipl 2	0.226 (11.94)**	0.209 (10.80)**	0.215 (10.14)**	0.136 (5.99)**	0.127 (5.60)**	0.115 (5.00)**
Dipl 3	0.136 (8.00)**	0.126 (7.31)**	0.130 (7.08)**	0.124 (6.44)**	0.113 (5.91)**	0.102 (5.21)**
Dipl 4	0.075 (4.88)**	0.070 (4.52)**	0.073 (4.52)**	0.047 (3.15)**	0.042 (2.82)**	0.033 (2.18)*
expv	0.009 (3.82)**	0.011 (4.60)**	0.012 (4.63)**	0.013 (4.93)**	0.014 (5.47)**	0.013 (5.07)**
expv2	-0.000 (0.28)	-0.000 (1.17)	-0.000 (1.19)	-0.000 (2.28)*	-0.000 (2.74)**	-0.000 (2.64)**
anci	0.021 (9.83)**	0.019 (9.16)**	0.020 (8.92)**	0.016 (6.77)**	0.016 (6.65)**	0.014 (5.78)**
anci2	-0.000 (3.32)**	-0.000 (3.23)**	-0.000 (3.27)**	-0.000 (1.52)	-0.000 (1.56)	-0.000 (1.15)
nbenft	0.002 (0.51)	0.011 (2.02)*	0.009 (1.54)	0.023 (4.47)**	0.022 (4.34)**	0.020 (3.90)**
Tp2	0.040 (3.08)**	0.040 (3.08)**	0.040 (3.07)**	-0.010 (0.25)	-0.005 (0.13)	-0.002 (0.06)
Tp3	-0.027 (1.52)	-0.020 (1.12)	-0.020 (1.14)	-0.040 (0.75)	-0.019 (0.36)	-0.015 (0.28)
Tp4	-0.098 (2.00)*	-0.090 (1.83)	-0.092 (1.86)	-0.033 (0.28)	-0.007 (0.06)	-0.008 (0.07)
public	0.058 (5.25)**	0.058 (5.28)**	0.058 (5.27)**	0.035 (2.49)*	0.034 (2.46)*	0.035 (2.47)*
cs1b2	0.406 (16.16)**	0.401 (16.02)**	0.401 (16.01)**	0.367 (16.93)**	0.360 (16.66)**	0.359 (16.61)**
cs1b3	0.200 (9.84)**	0.196 (9.69)**	0.196 (9.70)**	0.123 (8.13)**	0.119 (7.86)**	0.118 (7.85)**
cs1b4	0.023 (1.33)	0.022 (1.25)	0.021 (1.24)	-0.025 (1.44)	-0.027 (1.56)	-0.026 (1.53)
Resp	0.037 (2.71)**	0.033 (2.48)*	0.033 (2.47)*	0.041 (3.44)**	0.039 (3.26)**	0.037 (3.13)**
Taille2	0.036 (2.43)*	0.037 (2.52)*	0.037 (2.50)*	0.049 (2.86)**	0.052 (3.03)**	0.052 (3.07)**
Taille3	0.065 (4.83)**	0.065 (4.81)**	0.064 (4.79)**	0.081 (5.48)**	0.085 (5.76)**	0.084 (5.70)**
Taille4	0.043 (2.71)**	0.041 (2.60)**	0.040 (2.56)*	0.099 (5.73)**	0.100 (5.78)**	0.100 (5.81)**
Taille5	0.054 (2.55)*	0.053 (2.52)*	0.053 (2.50)*	0.135 (6.22)**	0.134 (6.19)**	0.132 (6.11)**
Taille6	0.136 (7.52)**	0.134 (7.45)**	0.134 (7.44)**	0.157 (8.50)**	0.159 (8.65)**	0.158 (8.59)**
Idf	0.097 (7.70)**	0.094 (7.43)**	0.094 (7.44)**	0.100 (7.01)**	0.101 (7.07)**	0.101 (7.08)**
Immi	-0.008 (0.37)	-0.007 (0.34)	-0.010 (0.48)	-0.035 (1.63)	-0.030 (1.40)	-0.022 (1.00)
Nbcho		-0.030 (4.07)**	-0.031 (4.06)**		-0.061 (5.13)**	-0.035 (2.28)*
nbcho2		0.002 (2.90)**	0.003 (2.97)**		0.006 (3.22)**	0.003 (1.59)
Nbinat		-0.007 (2.12)*	-0.008 (2.21)*		0.006 (0.86)	0.005 (0.68)
nbinat2		0.000 (1.16)	0.000 (1.31)		-0.000 (0.29)	-0.000 (0.12)
Lambda			0.020 (0.63)			-0.125 (2.68)**
Constant	3.038 (128.56)**	3.064 (125.55)**	3.053 (101.12)**	3.185 (144.11)**	3.198 (143.80)**	3.238 (121.49)**
Observations	3015	3015	3015	3034	3034	3034
R-squared	0.50	0.50	0.50	0.46	0.46	0.46

Absolute value of t statistics in parentheses * significant at 5%; ** significant at 1%

Appendix 3.

Table 6. Probit equation. Dependant variable : 1 : Wage earners ; 0 : Inactive or unemployed

	Females	Males
tage5-1	0.645	0.658
	(6.32)**	(5.43)**
tage5–2	1.055	0.763
	(10.24)**	(5.96)**
tage5-3	1.132	1.036
	(10.86)**	(7.45)**
tage5-4	1.261	1.082
	(11.57)**	(7.49)**
tage5-5	1.300	0.979
	(11.38)**	(6.58)**
Dina	-0.779	0.020
	(13.25)**	(0.25)
Dcho	-0.477	-1.208
	(9.91)**	(16.38)**
Immi	-0.395	-0.309
	(5.04)**	(2.79)**
Nbenft	-0.185	-0.024
	(7.56)**	(0.65)
Petit	-0.344	0.039
	(5.74)**	(0.40)
Handic	-0.135	-0.194
	(2.07)*	(1.99)*
Dipl 1	0.546	0.155
	(7.27)**	(1.38)
Dipl 2	0.582	0.164
	(6.89)**	(1.26)
Dipl 3	0.430	0.273
	(5.90)**	(2.42)*
Dipl 4	0.337	0.255
	(5.22)**	(2.87)**
couple	0.081	0.588
	(1.35)	(7.08)**
actm	0.080	0.087
	(1.65)	(1.20)
actp	0.004	0.149
	(0.06)	(1.44)
propri	0.196	0.214
	(3.91)**	(3.00)**
Constant	0.273	0.236
	(2.41)*	(1.68)
Observations	4161	3401

Absolute value of z statistics in parentheses
* significant at 5%; ** significant at 1%