

How does parenthood affect the careers of women and men?

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Introduction

Over the last few decades, the labour market has become more and more feminised. The employment rate of women has gradually risen, converging towards that of men, which has remained relatively stable. The employment rate gap has thus narrowed considerably, from 33.5 percentage points in 1983 (earliest available data) to 7.2 percentage points in 2019. Convergence in terms of work intensity, i.e. the number of hours worked per week, has been less clear-cut. While the number of hours worked by men has shown a downward trend, the number of hours worked by women declined more rapidly, at least until 2006. In that year, the gender gap in hours worked was eight hours per week. From 2006 onwards, the trend in hours worked by women has reversed, actually rising slightly, so that the gap with respect to men has narrowed. So, the employment gap in full-time equivalents worked out at 18 percentage points in 2019.

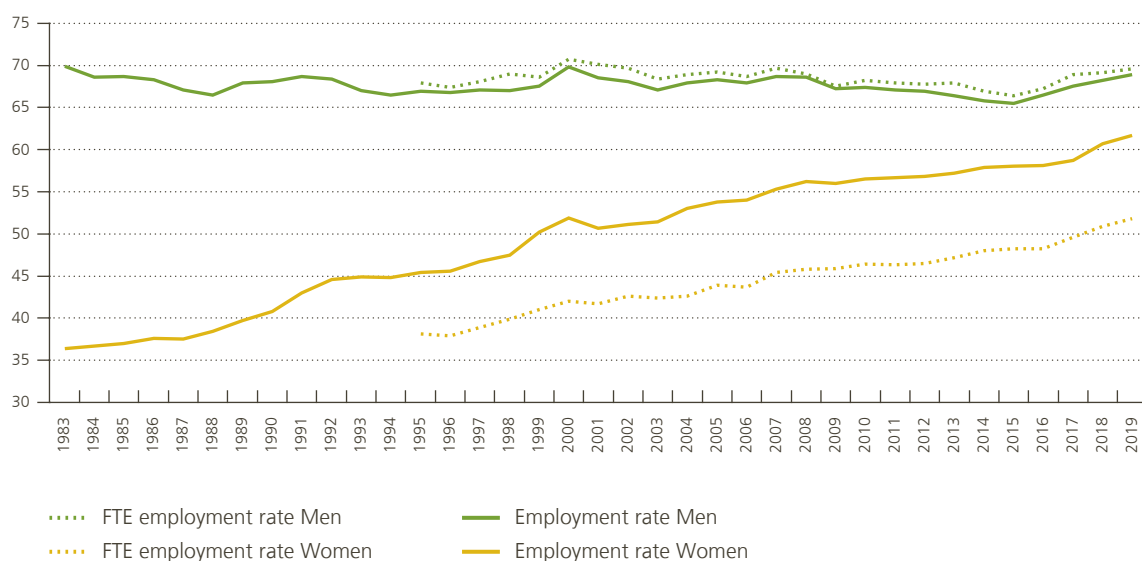
While men's and women's roles within the family and the labour market have evolved over time with the feminisation of the labour market, major differences remain. The occurrence of parenthood is an essential explanatory element for understanding the persistence of gender gaps, whether in terms of wages or intensive and extensive labour market participation. For years, the economic literature has been examining those gender gaps and more recently has tried to link them to parenthood. While women suffer a significant and lasting penalty, for men, parenthood is either neutral (Lundborg *et al.*, 2017, Angelov *et al.*, 2016, Cortes and Pan, 2020) or a plus for their career, in particular in households where the mother cuts back on her working hours to care for children (Lundberg and Rose, 2000). Initially, economists tried to understand through which channels this gap comes about. The main explanatory factors relate to differences in labour market participation rates, working hours, occupation and sectors. These differences have an impact on accumulated experience and human capital and lead to wage and career development gaps (Blau and Khan 2017, Kleven *et al.* 2019, Costa Dia *et al.* 2021, Bertrand 2020). Note that the level of education contributes negatively to explain the gender gap, as women are now on average more highly educated than men. Nevertheless, women concentrate on fields of study associated with less remunerative occupations. By analysing the child penalty according to sector of activity, Fontenay, Murphy & Tojerow (2021) show that job characteristics, and in particular the fact that having atypical or irregular working hours, are strongly correlated with the extent of the child penalty. In jobs where it is harder to reconcile work and family life, the penalty will be greater, and it will be more common for women to opt for a reduction in their working hours. This explains why a sector such as teaching, where schedules and leave are pre-determined, has a lower maternity penalty than the hospital sector, where schedules change weekly, and evening or night work is the norm.

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Chart 1

Convergence of employment rate between women and men over time, but still a large gap in particular when accounting for full-time equivalents

(in % of the corresponding population aged between 15 and 64 years)



Sources: Eurostat, OECD.

The wage gap observed today seems to be largely attributable to the arrival of the first child (Costa Dia *et al.* 2021). When they become mothers, women more often opt for career breaks or part-time work to care for children and thus accumulate less work experience. They choose occupations close to home and offering flexibility to cope with family life and childcare, but which are less well paid. Women leave their jobs more frequently for family reasons, with a negative effect on their earnings. Men tend to leave their jobs for professional opportunities, with a positive effect on their earnings. Due to their choices when becoming a mother, women are seen by employers as less devoted to work than men. The employer will offer them less training (as it is a less profitable investment), a lower salary or will prefer to hire a man (Correl *et al.* 2014, Lundbergh and Rose 2000).

Contributing to this literature, this article aims to understand how, in Belgium, both women and men adapt their labour supply when becoming a parent and how this can influence their careers later on. While the gender wage gap is not investigated here, the presented impact in terms of labour supply certainly helps to understand how wage evolution differs according to gender and choices linked to parenthood. To provide this analysis, we rely on the labour force survey over the period 1998-2019. While one drawback of this dataset is that we cannot follow individuals, a significant advantage is the richness regarding detailed variables in terms of personal characteristics, household characteristics and job characteristics. This dataset will also enable us to analyse in more depth how decisions change depending on the level of education of mothers and fathers, a factor often ignored in the literature. In the first part, we will look at the impact of parenthood on employment rates of women and men. We will then measure how both genders adapt their working time either through a reduction or a modification (e.g. overtime or atypical hours). And finally, how those intensive and extensive margins are used differently depending on the level of education of the parents. In section 2, we will investigate how decisions linked to parenthood may influence careers of women and men and in particular their probability of getting a job with supervisory responsibilities or a manager position. The next two sections will try to understand what underlies these choices and preferences and to what extent social norms (section 3) or public policies (section 4) could influence them. Our last section concludes, proposes some possible solutions to attenuate the so-called child penalty of women and opens the debate to further required research.

1. Parenthood as part of the remaining employment gender gap?

This article does not aim to explain the employment gender gap *per se* but to analyse how parenthood influences the labour supply of men and women differently. As presented in this section, however, parenthood appears to be a significant factor influencing the (full-time equivalent) employment gap between genders.

1.1 Impact of parenthood on employment rate

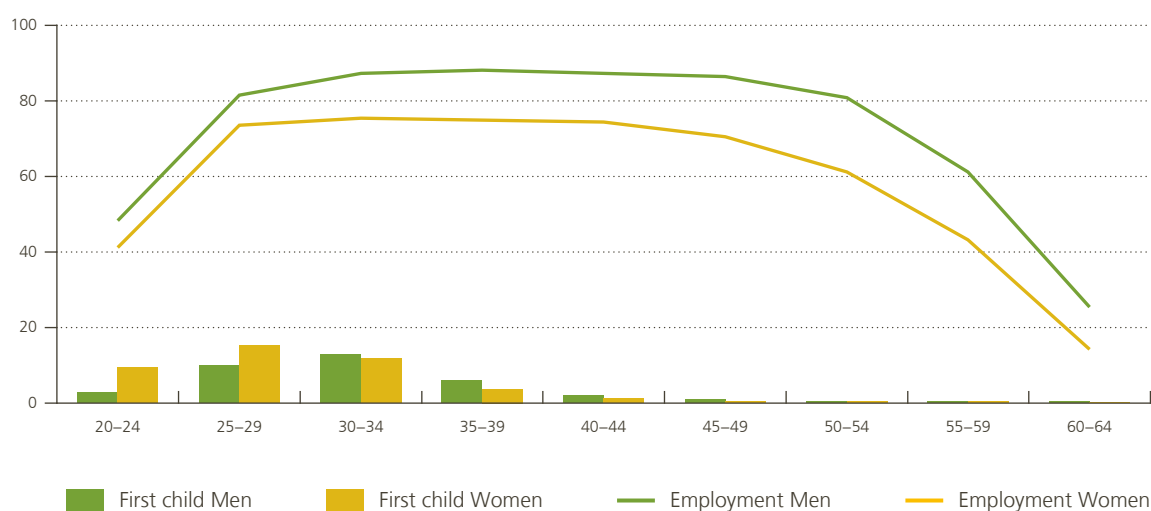
Based on the labour force surveys, we computed, on the one hand, the employment rate for both genders and for each age category and, on the other hand, the share of women and men with a first child who is less than two years old (see chart 2). While there is already a gender gap at the very beginning of the career, it widens significantly between 25 and 29 years old and persists over the rest of the life cycle. This 25-29 years age category corresponds to the age at which women become mothers (15 % of women aged between 25 and 29 years are mothers for the first time, 12 % of those aged between 30 and 34 years). Note that men tend to become fathers later. This is the case for 10 % of men aged between 25 and 29 years and for 13 % aged between 30 and 34 years.

Our dataset also enables us to look at the evolution over time of this gender employment gap. At the beginning of the 2000s, there was already a gender employment gap at the beginning of the career (-9 percentage points), then it increased at the average age of parenthood (-10 percentage points for 25-29 years, -15 percentage points for 30-34 years) and continued to rise over the years until the age of 50 (-27 percentage points) where it started declining mainly because of men leaving the labour market at a faster rate than women. The situation has improved over time. In subsequent periods, the gender employment gap narrowed at all ages, but this change is particularly pronounced at older ages (-11 percentage points for 50-54 years) and less at the beginning of the career (-5 percentage points). For young women, from 20 to 34 years, there is no significantly higher

Chart 2

Employment gender gap widens at the age at which women are becoming mothers

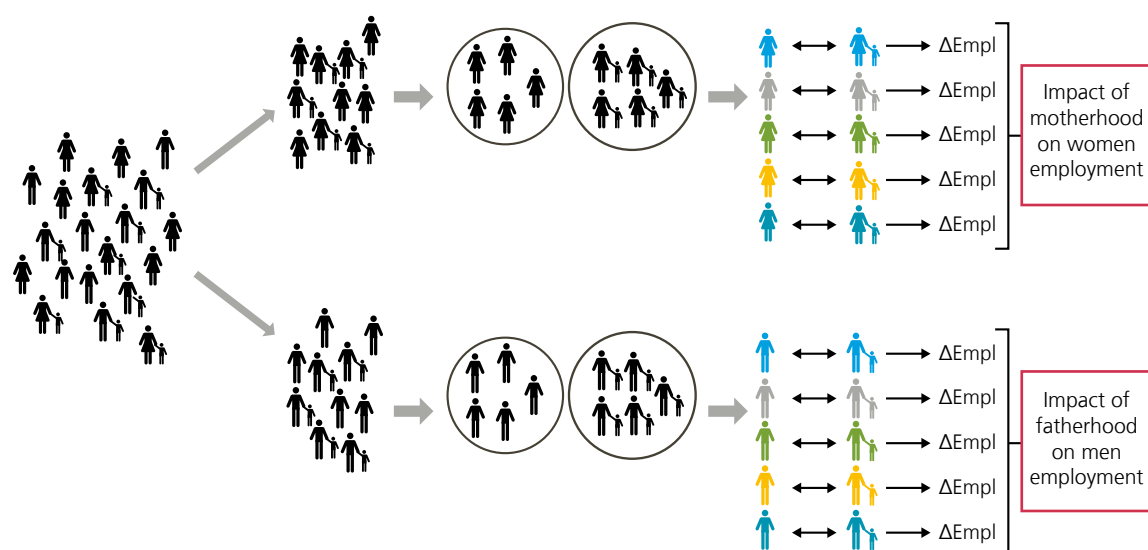
(proportion of people in employment for each age category and share of people having one child who is less than two years in the household, in %, average over the period 1998-2019)



Source: LFS, authors' computations.

Chart 3

A propensity score-matching technique to measure the impact of having children



proportion of employed women. While the gender employment gap has narrowed slightly, this is only due to a reduction in labour market participation among young men.

The timing of the wider gap, at the age of 25-29 years, seems to confirm the existence of a “child penalty” for women. To further analyse this penalty, we computed a variable that distinguishes between people with and without children. The variable “having children” means that, for the surveyed individual, at least one child younger than 15 years old lives in the household.

To measure the impact of having a child in the household on the probability of being employed for men and women, we used a propensity score-matching technique. The estimation is made for men and women separately, so what we analyse is not the gender gap but the actual impact of having a child. We compare women without children with mothers on the one hand and men without children with fathers on the other hand (see chart 3). However, what we want to know is not only what is happening to women (men) as they become a mother (father) and also what would have happened if they did not have children. To do so, we need to construct a “control group” (people without children) which match relevant characteristics (age, province of residence, educational level, marital status, year of the survey) with what we call the “treated group” (people with children). The difference in outcome (i.e. employment) of the computed “couples” (individuals shown in colour in chart 3) is then estimated, and the model gives us an average impact of motherhood (fatherhood) on women (men) in employment.

Our results, presented in chart 4, show that, for two identical women, a mother is 3.2 percentage points less likely to be employed than a woman without children. On the contrary, compared with another identical man, a father is 5.3 percentage points more likely to be employed. The variable identifying parents can also distinguish between those with one child, two children or three children or more. So, we can look at how the employment penalty for women and the positive effect for men change with the number of children. The control group is always people without any children. The same propensity-matching technique is used and matches couples based on age, region of residence, educational level, marital status and the year of the survey. This means that the control group is not similar across specifications. For example, on average, women with three children will be older than those with one child, meaning that the control group of women without children will be older for the estimation of the impact of having three children or more than for the estimation of the impact of having one child. Again, we carry out the analysis separately for men and women.

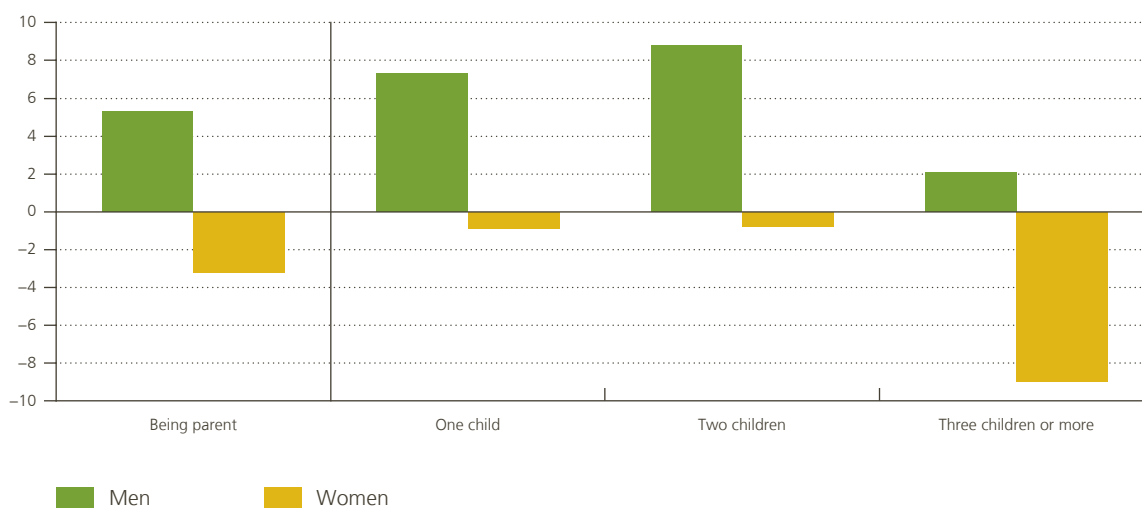
While the child penalty encountered by women is already evident for the first child, it is small at less than 1 percentage point. The same goes for women with two children. However, having three children or more induces mothers to leave (at least temporarily) the labour market so that, compared with women without children who have similar personal characteristics, they have an employment penalty of 9 percentage points. For men, however, being a father for the first time has a large and significant impact regarding the employment rate (+7.3 percentage points) and this “bonus” increases further with the second child (+8.8 percentage points). This higher propensity to be employed is nevertheless reduced when there are three children or more in the male’s household. In other words, compared with similar non-parent men, a father of three children or more is only 2 percentage points more likely to be employed.

In the decision whether to stay employed or not in the labour market, not only the number of children in the household is relevant but also the age of those children. Labour force surveys help us to compute the impact of parenthood depending on the age of the youngest child in the household (see chart 5). For fathers, the higher propensity to be employed is true at all ages of the youngest child and do not significantly varies with this age. For mothers, nevertheless, the employment penalty is a reality, reaching 6 %, until the youngest child is three years old. Of course, for women having more than one child, it means that the penalty occurred during more than three years. The penalty disappears when the youngest child is between three and five. After five years, women with children are more likely to be employed than comparable women without children. However, this is an estimation at time *t* for those mothers, meaning that compared with women without children, they still encountered career breaks at an early stage which can have an impact on the type of job they will get at that time.

Chart 4

A child penalty for women and a child bonus for men

(impact* in percentage points of having children in the household on the probability of being employed, by number of children, for people aged between 20 and 64 years, over the period 1998-2019)



Source: LFS, authors’ computations.

* Based on estimations provided by treatment effect of propensity score-matching technique, the control group is constructed with the following matched characteristics: age, province of residence, education level, marital status, year of the survey, separate estimates for women and men and for each specification (being parents, one child, two children and three children or more), the reference group being women/men without children.

Chart 5

Women’s employment penalty runs until the youngest child is 5 years

(impact* in percentage points of having children in the household on the probability of being employed, by age of the youngest child, for people aged between 20 and 64 years, over the period 1998-2019)



Source: LFS, authors’ computations.

* Based on estimations provided by treatment effect of propensity score-matching technique, the control group is constructed with the following matched characteristics: age, province of residence, education level, marital status, year of the survey, separate estimations for women and men and for each age of the youngest child, the reference group being women/men without children.

1.2 Adjustment of labour supply through number or type of hours worked

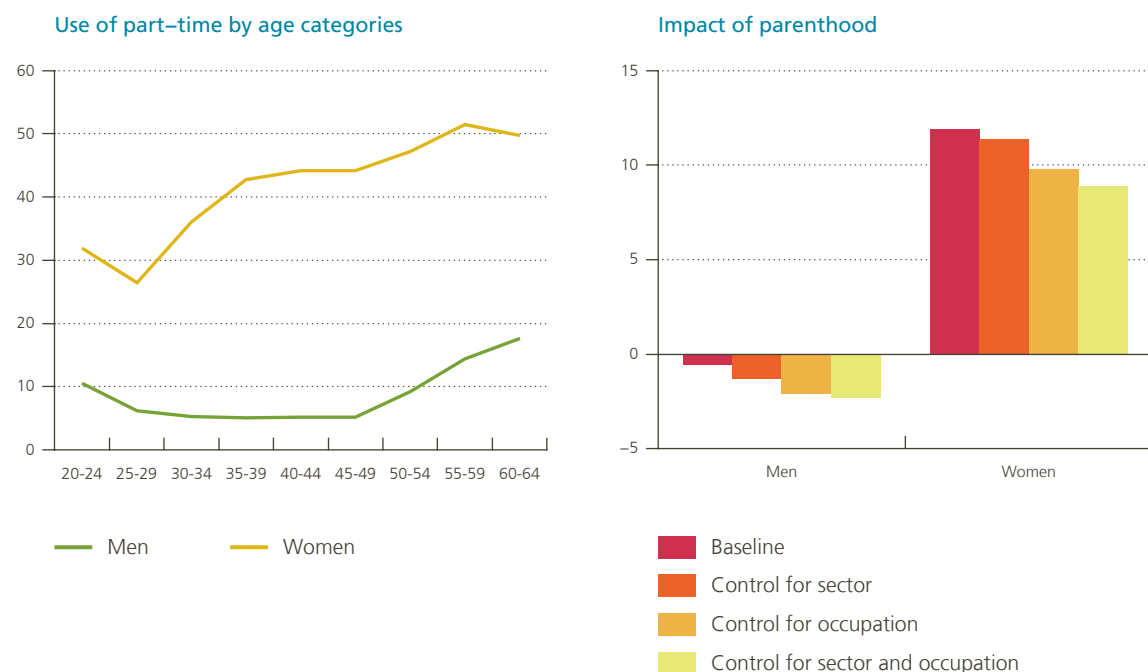
The time to be devoted to children is not only coming from mothers leaving the labour market, as reflected in the previous analysis, but also by a reduction of working time. Here again, these adjustments, through the use of part-time work, are mainly made by women. This phenomenon is already reflected in descriptive statistics. Based on our dataset, part-time work is on average more often used by women, at all ages and largely increases at the age of motherhood, never going back to its initial level for the rest of their working life. Moreover, looking after children or incapacitated adults is the first reason cited by women for opting for part-time work. For men, the curve is clearly lower, with less than 10 % of working men opting for a part-time job, until the age of 50 years when part-time work is more often used probably as a way of smoothly leaving the labour market before retirement. However, it is still largely below the curve for women, at 18 % for men aged between 60 to 64 against 50 % for women of the same age.

In order to test how parenthood affects the propensity to work part-time for both men and women, we use the same estimation technique as for the employment rate, namely propensity score-matching. Results are presented in chart 6. The analysis shows that a father having the same personal characteristics as a man without children and working within the same sector of activity and for the same type of occupation will be less likely, at 2.3 percentage points, to work part-time. On the contrary, a mother is 9 percentage points more likely to work part-time than another similar woman (in terms of age, province of residence, level of education, matrimonial status in a given year) working in the same sector and in the same type of occupation. Note that the decreasing impact of motherhood when we control for the sector of activity and/or the type of occupation indicates that women tend to work in sectors or occupations in which the practice of part-time work is more widespread, unlike men who tend to work in sectors or occupations where this type of flexibility is less common.

Chart 6

Part-time is on average more often used by women, at all ages, but largely increases at motherhood

(left-hand panel: proportion of people working part-time for each age category, in %, average over the period 1998-2019; right-hand panel: impact* in percentage points of having children in the household on the probability of working part-time, for employed people aged between 20 and 64 years, over the period 1998-2019 and over the period 2011-2019 when controlling for occupation)



Source: LFS, authors' computations.

* Based on estimations provided by treatment effect of propensity score matching technique, the control group is constructed with the following matched characteristics: age, province of residence, education level, marital status, sector of activity (NACE code), type of occupation (ISCO) and year of the survey, separate estimations for women and men, the reference group being working women/men without children.

Working time can also be adjusted through a reduction/rise in the number of overtime hours or by making less/more atypical hours. Those working schemes are less easy to combine with family live but bring extra revenues. Compared with men, women are both less likely to work overtime and atypical hours and this gender gap is even more likely to occur as women are mothers (see chart 7). Interestingly, the impact on men of having children is not significant for overtime and only very marginal for atypical hours (+1.3 percentage points). In other words, while we saw earlier that employment and full-time work increase with paternity, it does not seem that men are working overtime to compensate for loss of their partner's income. Nevertheless, gender gaps within sectors in overtime or of being less flexible to work atypical hours could have an impact on the careers of women and men and their propensity to reach higher positions (see also section 2).

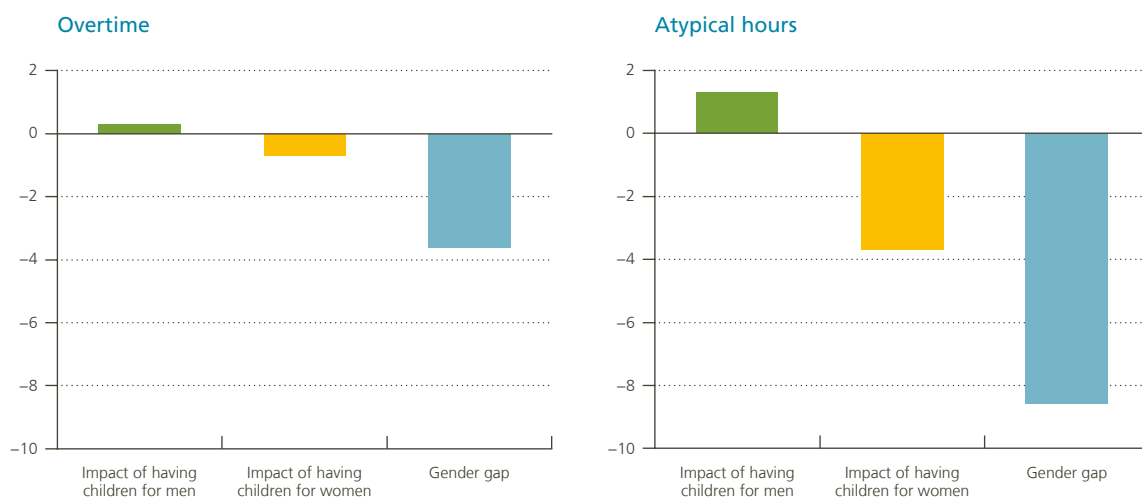
1.3 Different decisions for different levels of education

The two aggregate impacts regarding employment rates and number of hours worked presented in the above sections reflect an average effect for women and men but ignore some heterogeneity that could occur for sub-groups of the population. In fact, different levels of education (intrinsically partly correlated with the revenue) among both men and women could imply different decisions in terms of labour supply after parenthood.

Chart 7

Overtime¹ and atypical hours² are less often worked by women and in particular by mothers

(impact* in percentage points of having children in the household on the probability of working overtime or atypical hours and gender gap** in percentage points on the probability of working overtime or atypical hours, for employees aged between 20 and 64 years, over the period 2011-2019)



Source: LFS, authors' computations.

1 Overtime is based on either paid or unpaid overtime mentioned by surveyed individuals, binary variable taking the value of one if employees work overtime and zero otherwise.

2 Atypical hours are either shift work, evening work, night work, Saturday work or Sunday work, binary variable taking the value of one if employees work at least one of the atypical hours and zero otherwise.

* Based on estimations provided by treatment effect (having children) of propensity score matching technique, the control group is constructed with the following matched characteristics: age, province of residence, marital status, level of education, sector of activity (NACE code), type of occupation (ISCO) and year of the survey, separate estimations for women and men, the reference group being women/men working as employees without children.

** Based on estimations provided by treatment effect (being a women) of propensity score matching technique, the control group is constructed with the following matched characteristics: age, province of residence, marital status, level of education, having children or not, sector of activity (NACE code), type of occupation (ISCO) and year of the survey, the reference group being men employees.

Note: coefficient of having children for overtime of men is not significantly different from zero.

To verify this assumption, previous estimates are calculated once again but this time by dividing men and women into three groups of education level: those with at most a lower secondary degree (low-educated), those with an upper secondary degree (middle-educated) and people with a tertiary degree (high-educated).

The child bonus in employment for fathers is relatively stable across levels of education (see chart 8). The impact of fatherhood is positive in all cases and close to 5 percentage points. However, large disparities emerge when estimating the employment impact of motherhood. Compared to the average penalty of 3.2 percentage points, a woman with a low level of education will have an 8.4% less chance of being employed if she becomes a mother than a similar low-educated woman without children. It is worth noting that, when looking at the number of children, this employment penalty reaches almost 20 percentage points when the low-educated mother has three children or more. Women with a medium level of education also have a motherhood penalty but close to the average at 3.7 percentage points. Interestingly, when comparing two similar women (in terms of age, province of residence, marital status and for a given year of the survey) with a tertiary degree, it appears that the mother is 1.4% more likely to be employed than the woman without children. One possible explanation for that could be that highly-educated women without children could more easily pursue their studies, e.g. doing a PhD or a complementary Master's, than women with children. This would imply that mothers are more likely to be employed and women without children are a bit more likely to stay inactive (i.e. as a student) for a longer period. Moreover, having a family implies a higher responsibility to bring enough revenue into the household and therefore could put some pressure on highly-educated women to be employed. Note also that highly-educated women tend to have their first child at an older age (mainly between 30 and 34 years), meaning that they are already more attached to the labour market than women with a lower level of education.

Chart 8

Large child employment penalty for low-educated women but not for highly-educated women

(impact* in percentage points of having children in the household on the probability of being employed, by level of education, for people aged between 20 and 64 years, over the period 1998-2019)



Source: LFS, authors' computations.

* Based on estimates provided by treatment effect of propensity score-matching technique, the control group is constructed with the following matched characteristics: age, province of residence, marital status, year of the survey, separate estimates for women and men and for each level of education, the reference group being women/men of a certain level of education without children.

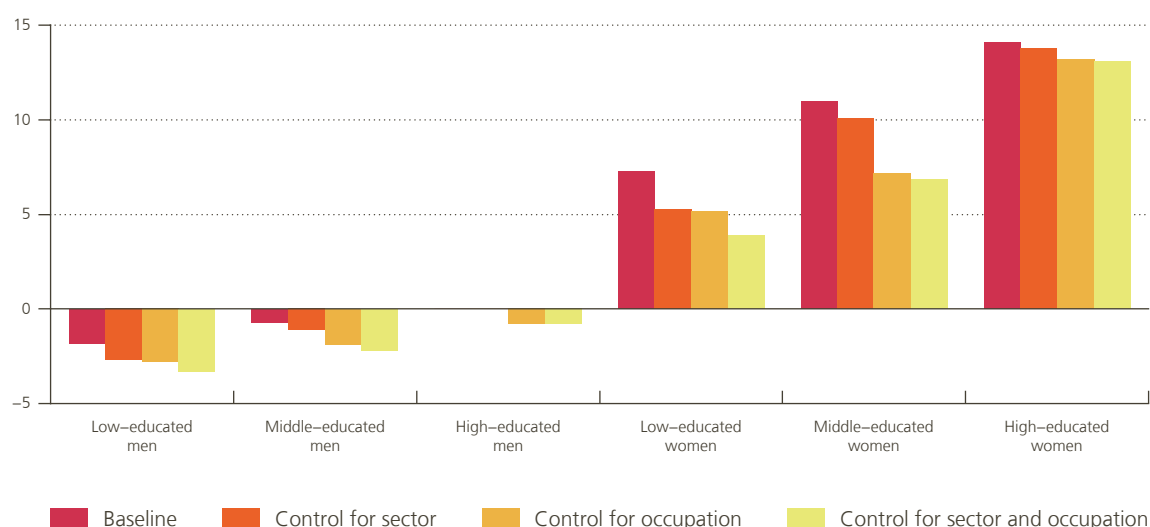
However, those highly-educated mothers, while not leaving the labour market, will be more likely to reduce their working time (see chart 9). More likely than other similar highly-educated women but also more likely than mothers with a medium or low level of education. A mother with a higher education degree is 14 percentage points more likely to work part-time than a similar woman also highly educated. For middle-educated mothers, the impact on part-time is 11 percentage points and for low-educated mothers 7.3 percentage points. However, as we have already highlighted earlier, controlling only for personal characteristics of women is not enough when measuring the impact of motherhood on the propensity to work part-time. Some sectors of activity and some occupations are already more likely to employ part-time workers. In fact, when controlling for the sector of activity and the type of occupation, the higher propensity of low- and middle-educated mothers to work part-time is largely reduced and reaches respectively 3.9 and 6.9 percentage points. This finding implies that low- and middle-educated women tend to work in a sector or for an occupation that allows working time flexibility. Conversely, the higher propensity of high-educated mothers to work part-time is only slightly reduced when controlling for occupation and sector and still works out at 13 percentage points. This impact of motherhood for highly-educated women therefore does not seem to be influenced by a tendency to directly choose flexible sectors or occupations but actually within a sector and an occupation to reduce working time when becoming a mother.

Different types of decisions made by mothers depending on their level of education is to some degree rational. For parents, working implies finding a childcare solution which is expensive and either less affordable or not at all for low- and middle-educated women. It is therefore less costly for them to (temporarily) leave the labour market to take care of their children themselves and that is all the more so when the number of children increases. For highly-educated women, however, despite childcare costs, staying in employment is still a better financial outcome and an important investment for their future career following an already high investment in skills. However, the child burden is not entirely supported by childcare or sufficiently shared by the partner, so more highly-educated mothers tend to reduce their working time.

Chart 9

Significant increase in part-time use for highly-educated women when they become mothers

(impact* in percentage points of having children in the household on the probability of working part-time, for employed people aged between 20 and 64 years, over the period 1998-2019 and over the period 2011-2019 when controlling for occupation)



Source: LFS, authors' computations.

* Based on estimations provided by treatment effect of propensity score-matching technique, the control group is constructed with the following matched characteristics: age, province of residence, marital status, sector of activity (NACE code), type of occupation (ISCO) and year of the survey, separate estimations for women and men and for each level of education, the reference group being working women/men of a certain level of education without children.

Focusing now on the impact of fatherhood, our estimations show that the lower propensity of men to opt for part-time work as they become fathers is particularly pronounced for low-educated men and this lower propensity increases when controlling for the sector of activity and/or the type of occupation. This means first of all that men tend to be in sectors or occupations in which part-time schemes are less widespread. Another explanation is the still strong social norms (see also section 3), that encourage fathers to be the ones who are supposed to bring sufficient money into the family and therefore they are not “allowed” to reduce their working time. This seems particularly true if they have a low level of education, which is highly correlated with an average lower wage.

2. The glass ceiling

Parenthood affects labour supply of both men and women in opposite directions. It implies more career breaks and reduction of working time for mothers and less career breaks and increase in working time for fathers. Those findings, besides previously stated direct incidences, also influence the entire career of mothers and fathers differently. The aim of this section is to further analyse how parenthood could raise or reduce probability of reaching higher positions.

For all workers since 2006, labour force surveys contain a variable indicating whether the job includes supervisory responsibilities. Rather than a managerial position (which will be analysed below), this variable can be true also for lower-skilled occupations. Conversely to what we found for employment or part-time work, it does not seem

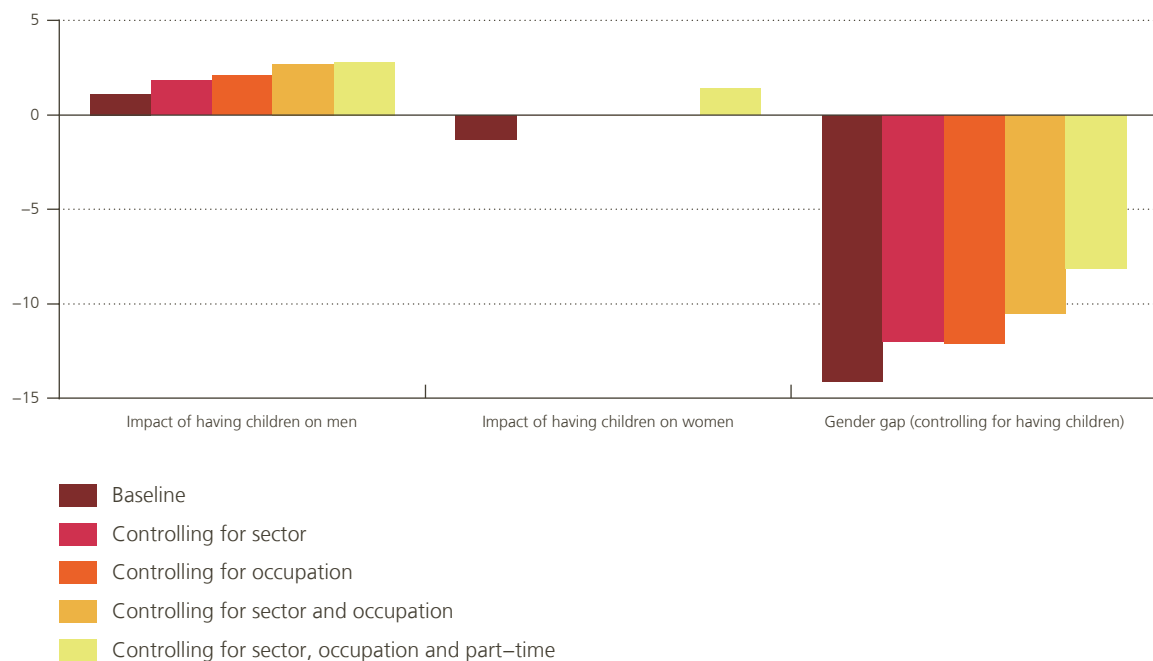
that the presence of children in the household influences the probability of women being in a job with supervisory responsibilities (see chart 10). A motherhood penalty of 1.3 percentage points occurs when comparing similar women, but this penalty disappears when controlling for the sector of activity or/and the type of occupation. The impact even turns positive once we control for part-time, meaning that women who did not opt for a part-time job when they became mothers have a higher probability of getting supervisory responsibilities than women without children who also work full-time. This result could be explained by the positive signal of high attachment to the job given by the mother keeping on working full-time. Becoming a father also seems to work as a positive signal for men since their propensity to work in a job with supervisory responsibilities is higher when they are fathers, and this is particularly true within a sector and within an occupation (+2.7 percentage points). Taking fewer career breaks and being less likely to adapt their working time than their male counterparts without children works as a positive signal of attachment to the job and therefore increases their chances of getting a job with supervisory responsibilities.

As parenthood does not seem to be the most explanatory factor, it is interesting here to go more deeply into the aggregate gender gap in reaching a job with supervisory responsibilities. Controlling for personal characteristics and for the fact of having children or not, a man is 14.1 percentage points more likely to obtain a job with supervisory responsibilities than a woman. This gap is only partially explained by the fact that women will tend to go to sectors or occupations with a lower probability to have this type of job since when controlling for

Chart 10

Large gender gap in supervisory responsibilities not directly linked to motherhood

(impact* in percentage points of having children in the household and gender gap** in percentage points on the probability of working in a job with supervisory responsibilities, for workers aged between 20 and 64 years, over the period 2006-2019 and over the period 2011-2019 when controlling for occupation)



Source: LFS, authors' computations.

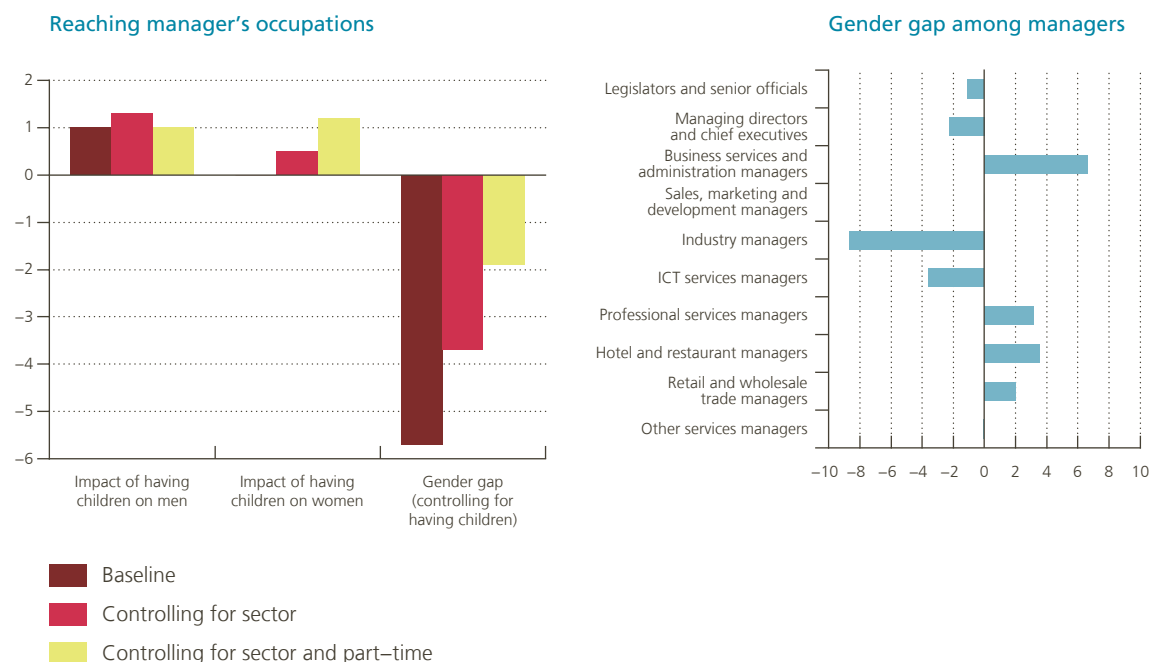
* Based on estimations provided by treatment effect (having children) of propensity score matching technique, the control group is constructed with the following matched characteristics: age, province of residence, marital status, level of education, sector of activity (NACE code), type of occupation (ISCO), working full-time or part-time and year of the survey, separate estimations for women and men, the reference group being working women/men without children.

** Based on estimations provided by treatment effect (being a woman) of propensity score matching technique, the control group is constructed with the following matched characteristics: age, province of residence, marital status, level of education, having children or not, sector of activity (NACE code), type of occupation (ISCO), working full-time or part-time and year of the survey, the reference group being men.

Chart 11

Difficulty to reach (certain types of) manager occupations for women

(left-hand panel: impact* in percentage points of having children in the household and gender gap** in percentage points on the probability of working in a managerial occupation (ISCO-1), for workers aged between 20 and 64 years, over the period 2011-2019: right-hand panel: gender gap among managers*** in percentage points on the probability of working in a certain managerial occupation (ISCO-1 3digits), for managers aged between 20 and 64 years, over the period 2011-2019)



Source: LFS, authors' computations.

* Based on estimations provided by treatment effect (having children) of propensity score matching technique, the control group is constructed with the following matched characteristics: age, province of residence, marital status, level of education, sector of activity (NACE code), working full-time or part-time and year of the survey, separate estimations for women and men, the reference group being working women/men without children.

** Based on estimations provided by treatment effect (being a women) of propensity score matching technique, the control group is constructed with the following matched characteristics: age, province of residence, marital status, level of education, having children or not, sector of activity (NACE code), working full-time or part-time and year of the survey, the reference group being men.

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those two factors, the gender gap is reduced to 10.5 percentage points. The higher propensity of women to opt for a part-time job, in particular when they become mothers, also explains lower chances to get supervisory responsibilities. Nevertheless, controlling for personal characteristics, parenthood, sector of activity, type of occupation and working time arrangement, a supervisory responsibility gender gap of 8.1 percentage points is still observed.

In Belgium, 8 % of workers are employed in a managerial function, the highest level of occupation based on the International Standard Classification (ISCO). While for other occupations classified as high-skilled (namely intellectual and scientific occupations as well as technician and associate professionals) gender equality is verified, among managers, only 33 % are women. Despite public support, policies (such as the introduction of quotas in administration board in 2011) and awareness-raising campaigns, women are still under-represented in top positions.

As for jobs with supervisory responsibilities, it is not motherhood *per se* that negatively influences the probability of becoming a manager but rather previously linked choices made in terms of sectors and working time arrangements. Controlling for those factors in our estimations, shown in chart 11, even leads to a positive impact of having children for two similar women. Moreover, while the gender gap in reaching managerial posts is equal to –5.7 percentage points when controlling for personal characteristics, it shrinks to 3.7 percentage points when looking at the penalty within sectors and even comes down to 1.9 percentage points when neutralising for the higher propensity of women to work part-time. Another explanation is related to career breaks taken earlier on in the career and the lower propensity to work overtime (see section 1.2). Temporarily interrupting a career or refusing to work non-standard hours is interpreted as a negative signal for the employer in terms of attachment to the labour market and motivation, while the contrary is associated with higher willingness to work and motivation and therefore with a premium both in wages and in promotions. In fact, results show a small bonus for fathers since they are 1 percentage point more likely to be managers than their non-father counterparts.

It is also of particular relevance to mention that gender disparities also appear among managers. Once women get access to a higher position, this is more likely to be the case as business services and administration managers, hotel and restaurant managers, professional services managers, or retail and wholesale trade managers. Conversely, men are more likely to become industry managers, ICT service managers, managing directors and chief executives or legislators and senior officials. Partly linked to social norms, this also reflects gender differences in fields of study (see next section). For example, while women are more likely to be highly educated, they less often choose STEM orientations.

Such findings highlighting a glass ceiling for women are common in the economic literature (see, for example, Cook and Glass 2014). Even in a country advocating gender/parenthood equality such as Sweden, Keloharju *et al.* (2019) find that the lack of women in top position is mainly due to their slower career progression (career breaks and average shorter hours than men) after childbirth rather than other observables (such as level of education, for example). Moreover, among those who finally reach those executive positions, women tend to be better qualified than men so they need to outperform their male counterparts to overcome barriers related to family life.

More than a glass ceiling, there is an emerging literature pointing to a glass cliff phenomenon, i.e. greater precariousness of women's leadership positions (Ryan *et al.*, 2016). More recently, Gupta *et al.* (2020) found that female CEOs are 45 % more likely to be dismissed than male CEOs and that female dismissal is less sensitive to a firm's performance. So, it is not only more difficult for women to access top positions, but it is also more difficult to stay in those positions.

Nonetheless, economic literature has largely proved that gender diversity could be beneficial to firms. For example, analysing firms' patents and board characteristics across 45 countries, Griffin *et al.* (2021) found that firms with gender-diverse boards have more patents and a higher innovative efficiency. They also highlighted the fact that boards which are more likely to include women are in countries with narrower gender gaps, higher female labour market participation and less male-oriented cultures. Azmat and Boring (2020) also confirm these findings related to firm productivity and performance but also find that one of the factors influencing low gender diversity practices is related to women's reluctance to work in a male-centric environment. Furthermore, family-friendly companies, preferred by women, generally offer fewer career opportunities and pay lower wages.

3. A story of preferences?

After seeking to identify the observable factors explaining the gender gaps, the literature has tried to understand why men and women position themselves differently in the labour market when they become parents.

For a long time, economists have studied the question by assuming that choices were made voluntarily by individuals according to their preferences or due to a comparative advantage within the household. Women would specialise in housework and childcare because they have a preference and/or comparative advantage in these areas, while men would have a preference/comparative advantage for paid work. According to this kind of model, the gender wage gap inevitably induces a specialisation of men in the market and of women at home.

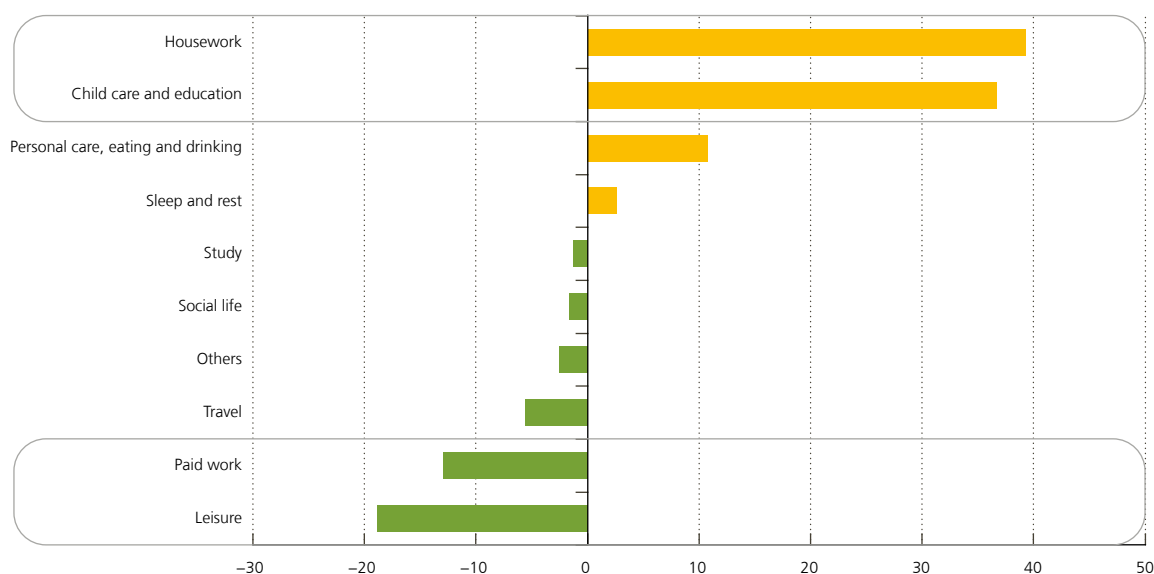
Sociology has brought a new vision by trying to understand what underlies these choices and preferences. Social constraints and conditioning play an important role in the formation of preferences and choices. Harper *et al.* (2020) define the social norms as “the rules that determine behaviours and attitudes, prejudices and values, and codes of conduct and beliefs”. Within social norms, gender norms dictate how people must behave to conform to what is expected according to their gender. They are internalised by individuals at an early age and are part of the individual’s self-perception and self-esteem. Those rules are implicit and informal but strongly shared by society, both by men and by women (Bertrand 2020). For example, in countries where men feel that if jobs are scarce, they should go to men first, a view that is also shared by women. Individuals who do not behave in line with gender stereotypes are evaluated negatively and are subject to social pressure. It should be highlighted that social norms change with time and place. They are linked to the cultural context but are not limited to it.

Women’s choices on the labour market are influenced by those gender norms, i.e. by the need to conform to what is expected as appropriate behaviour from a “good wife” or a “good mother”, with detrimental effects on their career. Note that gender stereotypes also hinder men willing to spend time with their children. Even in

Chart 12

Gender specialisation in time devoted to paid work, housework and childcare

(gender time gap¹ in %, average time use for a weekday, 2013)



Source: Statbel.

¹ Defined as (time spent by women – time spent by men) / time spent by men.

our modern world, the perception of men's and women's roles differs, whether in the household or in the labour market. According to Kleven *et al.* (2019), social norms and the family environment play a major role in women's choices and preferences for family over career. Using items from the International Social Survey Programme such as: "Should a woman with children under school age or in school work outside the home (full-time or part-time) or stay at home?" as a proxy for gender norms, they find that countries with larger child penalties are characterised by more conservative views.

The daily time use very clearly reflects gender stereotypes. Chart 12 illustrates the gender gap for the time devoted to different activities during a weekday (based on the time use survey, 2013¹). The gender division of occupations remains traditional: while women spend less time in paid work – and leisure – than men: they devote more time to housework and childcare. The less time dedicated by women to the labour market is more than offset by the time spent in unpaid work like housework or childcare. If we focus on the 25-39 age group having at least one child of less than seven, the gender differences are even more significant². Those mothers spend an average of 16h06 per week on childcare and education, compared to 8h34 for fathers. Mothers spend 18h16 in paid work, fathers 31h51. Domestic tasks account for 20h32 for mothers, 12h25 for fathers. Thus, on average, per week, mothers spend 13h35 less in paid work than fathers, 25h39 more for childcare and domestic chores. And there is little change over time: in 1999 (2013), women spent 5h50 minutes (5h22) cooking, men 2h08 (2h08). The same observations hold true for the time spent cleaning or doing the dishes. If we look at the situation for teenagers, there are already differences in time use. Girls spend more time on education, social life and domestic tasks, boys on free time.

The coronavirus crisis has highlighted the persistence of gender differences in the division of roles between men and women. Although men did a bit more at home, women managed the best part of it. Due to the closure of schools, the volume of childcare increased significantly. It was principally women who took it on in combination with their job. The possibility of teleworking has sometimes resulted in a double day for mothers: childcare and paid work. It comes as no surprise that women reported feeling more tired and stressed during the COVID crisis than men (Mascherini *et al.*, 2020). According to a study by the VUB, lockdown actually reinforced gender inequality³. Although men were at home 4 hours longer every day during the lockdown than in 2013 (previous wave of the survey), they did just six minutes more housework. Even when men do not have the possibility to go to work, to the sports club or restaurant, they still do not spend more time on the household⁴.

De Rock & Perilleux (2021) have looked at the time allocations within households between paid and unpaid work and its incidence on life satisfaction. They show that, independently of the level of education of their partner, men spend more time in paid work and women in unpaid activities. They found a negative effect on subjective well-being for women when they work full-time and also carry out the majority of the unpaid work, leading to a double burden. In that case, women are happier when working part-time. They conclude that women would be in favour of a more balanced division of paid and unpaid work, but not men. Flèche *et al.* (2020) also find similar results. In households where the woman works more hours on the labour market than the man but still does most of the housework, she feels overwhelmed and dissatisfied. According to the authors, women with egalitarian beliefs perceive this unequal division as unfair, which reduces their life satisfaction. Bertrand (2020) postulates that the social pressure is the reason why women in high positions do not do less at home, but actually more, to conform to what is expected of a good wife and mother. Women do not have a preference for household activities, but rather a fear of the reputational consequences of not doing so. In the same vein, it appears that both partners seem to be apprehensive about the woman earning more than the man, as this undermines the male breadwinner principle. Finally, couples where the woman has a high income have a higher probability of divorce (Bertrand *et al.*, 2015).

1 In 2013, 5 500 respondents aged 10 and more from 2 700 households were interviewed. The next wave of the survey started in 2021.

2 Institut pour l'égalité des femmes et des hommes (2020).

3 [Quarantine reinforces gender inequality \(vub.ac.be\)](https://www.vub.ac.be).

4 Mannen waren vaker thuis, maar hielpen amper meer – De Standaard.

Stereotypes do not only shape women’s labour market decisions but come into play much earlier. Women’s educational choices, in particular, also have potential negative repercussions on their career. The uneven concentration of women and men in different fields of study leads to segregation in the labour market (by occupation and sector). Chart 13 shows the choices of field of study made by young people at higher education by gender. It illustrates the over- or under-representation of women for each field of study relative to men. First of all, there are proportionally more women entering higher education than men. Then, women concentrate their studies in the fields of health, education and social sciences. They are, on the other hand, under-represented in the fields of ICT, engineering and natural sciences, generally leading to higher-paid occupations. These choices thus have consequences in terms of future income and career opportunities.

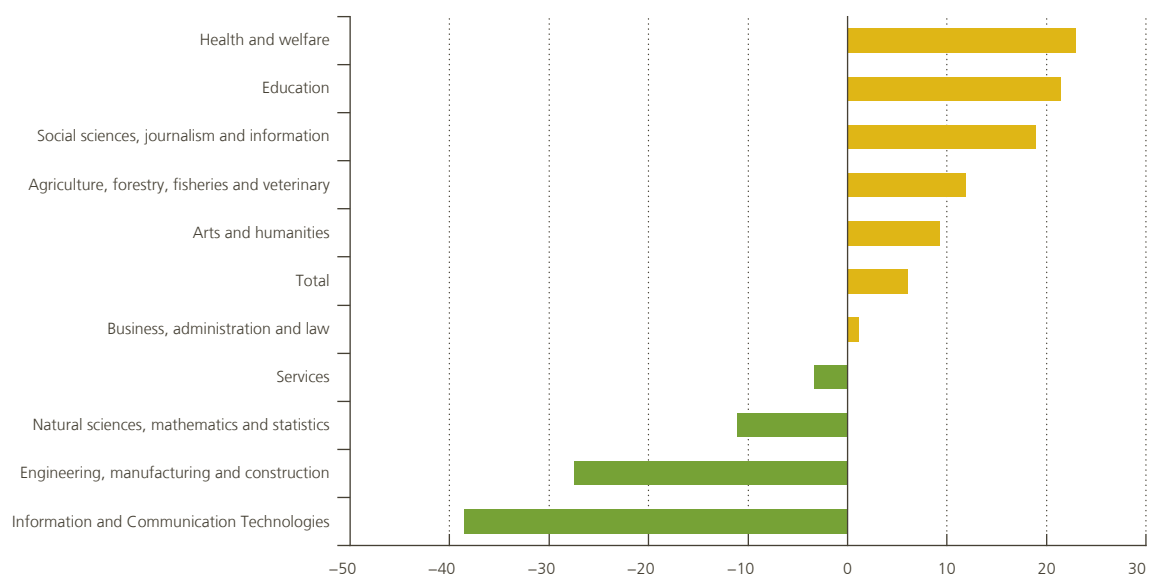
Some claims that gender differences in choices are driven by differences in psychological attributes, such as attitudes to negotiation, competition and risk-taking. Some personality traits are associated with women, such as subordination or being maternal. Women are also considered to be more risk-averse, more sensitive, more stressed and more pessimistic. Men are associated with traits such as authority, a competitive mind or rationality (Bertrand 2020). Men are also perceived to be more efficient than women and generally have higher self-esteem, i.e. more confidence in their relative abilities. For equivalent work, men score higher than their female counterparts, regardless of the gender of the evaluator. Women therefore avoid competitive situations, while men do not (Gneezy *et al.* 2003, Niederle and Vesterlund 2007).

Those gender stereotypes lead women to undervalue their skills in areas considered as masculine (such as STEM). Owing to the lack of confidence in their ability to succeed, they avoid such fields. The opposite is true for men, who overvalue themselves. The belief that women are not good at mathematics can become self-predicting. Gender norms affect the performance of women in school and subsequently in the labour market. In addition, some women anticipate their role as mothers and integrate this factor into their study and career choices, limiting themselves to family-friendly occupations and sectors.

Chart 13

Different study orientations by gender

(over and under-representation of women by field of study in tertiary education in percentage points, 2019)



Source: Eurostat.

Men because they are not supposed to use them (*“it is the mother’s job to bring up the children”*): women because it confirms that their priority is not their job. Therefore, this type of policy tends to reinforce stereotypes (Olivetti and Petrongolo 2017, Rossin-Slater 2017). In Sweden or Norway, parental leave must at least be partly shared between both parents. Sweden was the first country to explicitly introduce paternity leave in 1974. Swedish parents are entitled to 16 months of parental leave, to be divided between both parents, with a minimum of two months reserved for the father. The aim is to promote their involvement in the upbringing of children and gender equality in the workplace. Nevertheless, even in Sweden, raising children is still seen as a woman’s role: it is still mothers who use most of the parental leave (in two-thirds of the cases). This result just goes to show how hard it is to break gender norms. In Belgium, reforms are moving in the right direction as paternity leave has been raised to 15 days in 2021 (instead of 10 days before) and will again go up to 20 days in 2023. As a reminder, maternity leave is 15 weeks, divided into two periods (pre- and post-childbirth¹). Parental leave (4 months full-time and proportionally more part-time²) is eligible for both parents, as is the time credit for “care of child under 8”³. Even if men are eligible, the various forms of parental leave and career breaks remain a women’s matter: it is mostly women who reduce their working hours or leave – temporarily or not – the labour market at the birth of a child.

Other policies, such as flexible working hours or teleworking, also aim to facilitate the combination of family life and work. However, these arrangements may also be associated with a negative bias on the part of employers. Despite the positive aspects involved in terms of flexibility and time saved from less commuting, working from home could pose a risk for working women as they will be perceived as being more available to carry out housework and childcare. This could exacerbate the imbalance in the division of tasks within their household. In work, women could be perceived as being less invested in their jobs, with repercussions in terms of career and wage (Coppens *et al.* 2021). During the COVID-19 crisis, according to a study based on Dutch data, mothers spent three-quarters of their teleworking time simultaneously looking after children, 30% more than their spouses. Furthermore, the children interrupted them twice as much as their fathers while working from home⁴.

The provision of childcare can help women to remain in the labour market. Blau and Wincker (2017) as Olivetti and Petrongolo (2017) demonstrate that childcare subsidies boost mothers’ labour supply without the potential negative impact of parental leave. To be efficient, the scheme must meet several conditions. First, it must be offered in sufficient numbers. Second, it has to be affordable for all workers (even the low-paid). And third, it is also important that the hours covered allow for full-time employment. This last point is not only imperative for small children under three, but also for older children, at school. In Belgium, school timetables and holidays make it difficult to easily combine children at school age and work.

Conclusion

Despite strong convergence in terms of employment rates, being a mother is still associated with a penalty on the labour market. Our results shows that gender gaps – at the intensive and extensive margins – are strongly related to parenthood. Higher labour market participation among women has not led to a more balanced division of unpaid work like housework and childcare. Women still bear most of the burden. However, nowadays, more women have graduated from tertiary education than men. Though they themselves limit their educational choices and career opportunities in order to take care of their children or family members in need. Such choices lead to a child penalty for women until the youngest child of the household is five years. Our results also

1 1 to 6 weeks before childbirth; 9 to 14 after, according to the number of weeks taken before.

2 4 months if suspension full-time, 8 months if half-time, 20 months if 4/5ths, 40 months if 9/10ths, available until child’s 12th birthday.

3 Maximum 51 months, whatever the form of interruption full-time or part-time. The duration is deducted from other forms of time credit such as “palliative care” or “following a recognised training course” time credit.

4 “Les femmes qui peuvent télétravailler, même lorsqu’elles ont des enfants, s’en sortent mieux économiquement” – lemonde.fr.

illustrate that the penalty materialises through different channels according to the level of education of the mother. Low-educated women tend to leave the labour market, while highly educated ones reduce their working time. This difference could certainly be linked to the inherent costs of childcare relative to wages. People with a low level of education tend to have lower wages. The costs and inconvenience of working simultaneously while caring for one (or more) young children can exceed the earnings for low-paid jobs. Highly-educated women tend to earn higher wages and therefore prefer to keep their jobs and get a return on the investment in education they made at a younger age. Nevertheless, to manage children and a job, they opt for temporary career interruptions or part-time work. Those choices reduce their opportunities later on to reach top positions and supervisory responsibilities. For men, it appears that the effect of parenthood is neutral or even an advantage for their career. This premium may be related to men compensating for their partner's reduced labour supply – and thus reduced wages – by working more than before or trying to reach better position to get higher wage. This would be in line with gender stereotypes, where women are in charge of children and men are the breadwinners.

As greater labour market participation among women generates economic gains, various public measures aim to facilitate the combination of family and work, and more generally to fight against discrimination and gender gaps. Nevertheless, they appear to generate some adverse effects on women's careers. Indeed, those policies tend to reinforce gender stereotypes. Even if generally eligible for both men and women, the use of these schemes – in order to care for children – is mainly made by mothers.

Gender norms matter a lot in this story as they lead to the persistence of traditional gender roles and thus put a brake on social progress regarding gender equity. In order to reduce the gaps, social norms on the division of roles within the household and in the labour market need to change. To reach a more balanced labour market, caring responsibilities must be shared more equally between men and women. The solution does not lie in helping mothers to reconcile work and family, but to get fathers involved too. Shared use of parental leave, as in Sweden, could contribute to a fairer picture. Availability, affordable and adequate childcare also facilitate both parents' employment. A campaign to raise women's awareness, at an early age, of the consequences of their educational and career choices would certainly also help enhance women's emancipation. More generally, to enable a change in social norms, all actors in society must be involved. In particular, the environment (family, friends, teachers, etc.) and the media, influencing attitudes and behaviour from an early age, have a major role to play. It should also be highlighted that gender equity benefits men too, as some would prefer to work less hours and spend more time with their children. It is important to take the necessary steps now to implement these changes, as changing social norms is a long-term process, taking decades or generations to materialise.

Further work on how decisions are taken within households could make it easier to understand our findings, in particular, depending on the level of education or the working conditions of both partners, also including an analysis to see how decisions change or do not change when the woman is the one who brings the highest wage into the household before parenthood. Specific focus could also be dedicated to single parents, as they become more and more common and as women are mainly at the head of such households.

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