

## **Parent's Wage Developments revisited: The Case of Female Same-Sex Parents**

Katharina Stückradt

Eva Jaspers

Ruben van Gaalen

### **Work in progress – please do not cite or quote**

To be included after further data matching:

- Second DV: monthly income
- Hourly age and monthly income for up to 6 years after birth of first child

### **Abstract**

This paper looks at wage developments after transitioning into parenthood with special regard to differences between mothers in female same-sex couples and parents in different-sex couples. As within female same-sex couples there are two mothers of which only one is giving birth to the baby, comparing the two mothers in female same-sex couples to each other as well as to mothers and fathers in different-sex couples is informative. The work adds to the literature in giving deeper insight into how motherhood affects wages of mothers in female same-sex couples. Moreover, it sheds light on how motherhood impacts women's earnings in general. Making use of Dutch register data, we analyse couples who had their first child between 2008 and 2014 by means of OLS regression, Heckman selection models and Fixed-Effects models. Looking at the development of hourly wages, we find birth-giving mothers in both female same-sex couples and different-sex couples to have similar wage developments. The 'second' mothers in female same-sex couples show similar wage developments to fathers in different-sex couples, which are more positive compared to the birth-mothers. This indicates that biological constraints of motherhood do impact mothers' wages, which is in line with the Human Capital approach.



## **Introduction**

It is a widely known phenomenon that mothers earn less compared to others on the labour market (Budig and England 2001; Avellar and Smock 2003; Gangl and Ziefle 2009). Research has shown the existence of negative effects of motherhood on earnings for various countries of the western world. While mothers experience a decrease in income between 5 to 10 percent per child, fathers might even experience an increase in pay after transition into paternity (Gangl and Ziefle 2009; Hodges and Budig 2010; Koslowski 2010). Different explanatory mechanisms for this phenomenon have been discussed, which can be categorized into two main aspects: first, mothers might experience earnings decreases due to unobserved influences of motherhood on their productivity at work. This mechanism is explained in different ways by Human Capital Theory, New Home Economics and Compensating Wage Differentials. Second, on a different vein, mothers' lower income might be explained by discrimination on the part of the employer, which is in line with Expectation States Theory (Oesch et al. 2017). These explanatory mechanisms bring up different reasons of biological or societal nature in order to answer how motherhood impacts women's earnings developments.

Whereas numerous studies have focused on the emergence of the so-called motherhood wage penalty for mothers in different-sex couples (DSC), almost no attention has been paid to mother's earnings development among same-sex couples (SSC). Considering SSC can be of interest when enlightening various phenomena typically resulting out of gendered behaviour (Downing and Goldberg 2011; Jaspers and Verbakel 2013; Evertsson and Boye 2018). As for income developments after transition into parenthood, looking at mothers in SSC can be informative for several reasons. Female SSC depict a unique opportunity to test whether the income developments after transition into parenthood can rather be ascribed to biological aspects of motherhood (such as pregnancy and breastfeeding) or emerge from motherhood as a societal construct. As female same-sex couples consist of two mothers, of which only the so-

called birth mother experiences the biological circumstances of motherhood, there is a new range of possibilities for research. Next to the birth mother, the second mother, who is not the biological mother of the child and is called the social mother, is subject of interest. As the term social mother states, this mother experiences the societal aspects of motherhood. She does not need to cope with any of the ‘biological restrictions’ the birth mother has to undergo. Investigating whether income developments differ between social and birth mothers hence enlightens the impact of the biological facets which come with being a mother. Also comparing birth mothers in SSC to mothers in DSC is of crucial interest. Different from a mother in a DSC, the SSC birth mother is bringing up her child together with a second women, who might impact her in a different way than a man would. Further, a comparison between SSC social mother and DSC father is informative, as neither of them faces the biological consequences of parenthood. Both of them are however partner to a biological mother, which might arouse a feeling of responsibility in them as well as an actual increased demand of financial resources in the household. By comparing mothers in SSC to parents in DSC, this thesis aims to shed more light on the phenomenon of parental income developments. Therefore, the following question is asked:

*How do income developments differ between mothers and fathers in DSC and birth mothers and social mothers in SSC after transitioning into parenthood?*

So far, only a limited number of studies has looked into the effect motherhood has on earnings for female SSC. For Canada, Waite and Denier (2015) do not find any difference in income after transition into motherhood, whereas Baumle (2009) even finds a motherhood premium for same-sex mothers in the USA, however not differentiating between birth- and social mothers. By investigating the case of the Netherlands, this study will add to the scarce evidence of

the parental income developments among mothers in SSC. The Netherlands depict a different national context than the USA and Canada. In terms of policies, Dutch parenthood policies also impact unmarried couples and SSC. Further, the Dutch system provides supporting policies when it comes to childcare and parental leaves. Neither is the case for the USA and Canada. As on the Dutch labour market, employers generally experience annual pay raises, it cannot be expected to find actual wage decreases in income after transitioning into motherhood. Yet we expect the steepness of the increase to be impacted by motherhood and thus to differ between mothers and fathers. Aside from the political framework, the Netherlands are also known to be an especially tolerant country when it comes to homosexuality (Kelley, 2001). They were the first country to legalize marriage for SSC and thereby also giving them same rights as heterosexual couples with the exception that they did until 2014 not automatically become the legal parent of their partner's child. Holding equal rights as straight people also implies that homosexual people may feel accepted and might not feel different from people who are heterosexual (Badgett, 2009). The Netherlands show great political as well as societal acceptance for homosexuality (Hekma and Duyvendak, 2011). This again makes the country a unique opportunity to study parental wage developments by means of female SSC. The fact that they have the legal opportunities as well as the social appreciation to found a family may encourage female SSC to actually make use of these rights which in turn leads to a greater number of cases and makes their experiences easier to study.

The thesis at hand will make use of Dutch register data. Thus, a comprehensive database including information on labour market transitions as well as demographic information for the Dutch population will be available. A sample of heterosexual parents as well as all available cases of mothers in committed SSC relationships will be subject of a longitudinal analysis.

By analysing such comprehensive data, this thesis contributes to the current state of research in a methodological way. The Netherlands is one of the few countries for which such an

extensive data base on homosexual couples is available. Further, from a theoretical perspective, getting deeper insight into the question why motherhood affects income developments, is highly relevant for society. By adding knowledge to the very limited number of studies in the area of the parental wage developments among mothers in SSC, this paper aims to shed a brighter light on the mothers' income developments not only for mothers in SSC but for mothers in general.

## **Theory**

### **Gender Ideology**

The theoretical approaches explaining mothers' earnings developments are embedded in the concept of gender ideology. A traditional gender ideology relates back to the 'doctrines of different spheres' promoting the role of the male breadwinner and the female homemaker (Davis and Greenstein, 2009). According to this, household work is considered a female task. This gets supported by Sutphin (2010: 195) stating that "for women, doing housework is often an invisible task because they are socialized to believe that they are supposed to perform housework". Men in contrast are supposed to fulfil the role of the full-time working provider for their families. Such a task division is reinforced by the transition into parenthood. Every individual has their very own gender ideology shaped by individual experiences and values which influences individuals' decisions and especially family-related behaviour (Davis and Greenstein, 2009). Depending on one's ideology, this can also result into a more gender egalitarian lifestyle (Nitsche and Grunow, 2016). However, life choices, e.g. with respect to the labour market, are not only dependent on own gender ideology but also on attitudes of others, as for example the employer. Hence, no matter how egalitarian the own gender ideology

might be, traditional gender ideology might still influence a mother's life. Most of the theoretical mechanisms explaining mothers' earnings developments underlie the idea of the mother as the family's primary caregiver which is rooted in the traditional gender ideology (Oesch et al., 2017).

The following is going to present four approaches to explain mothers' earnings developments which are initially developed for different sex couples. The first two assume that mothers actually perform worse than non-mothers and do thus deserve to earn less. The third one presumes that mothers voluntarily accept a lower income, whereas the last one expects that mothers involuntarily are treated differently from non-mothers.

### **Human Capital Theory**

Human Capital Theory explains developments in income as a mirror image of individual's productivity which in turn is defined as the amount of experiences, education and skills the individual has. A period spent away from the educational system or the labour market automatically depicts a decrease in individual productivity, as the individual lacks this period of investment in Human Capital (Becker, 1991; Gangl and Ziefle, 2009). Following this line of argumentation, motherhood can be considered an obstacle when accumulating Human Capital. Having a baby takes over a big share of a woman's time due to pregnancy, preparations before birth as well as recovery after giving birth, breastfeeding and maternal leaves (Evertsson and Boye, 2018). Thus, mothers dispose over less time to invest into their Human Capital compared to childless women. They might not be able to spend as much time on further education, development of job-related skills and gathering work experience which results in lower Human Capital (Staff and Mortimer, 2012). But not only a lack in time, but also a decrease in work commitment of mothers is considered to lead to a decrease in Human Capital (Evertsson, 2013).

Further, motherhood often occurs during the onset of a woman's work biography (Taniguchi, 1999) which can be considered a crucial determining phase for a career. Losing Human Capital during this crucial period might impact mothers' careers and thus earnings also long-term.

The fact that mother's Human Capital might be lower can also be a selection effect resulting out of choices made earlier in life. Before transitioning into parenthood, future mothers might already feel less incentives to invest in their Human Capital as they might already know that their life planning will focus on family life and kids (Sigle-Rushton and Waldfogel, 2007).

Empirical evidence for this approach has been found. Studies differ in whether they find evidence mostly for mothers' education and working experience prior to childbirth (Staff and Mortimer, 2012) or whether they find a diminishing effect of pregnancy and childcare on Human Capital (Kalist, 2008). Such an effect might be even stronger for the second child (Budig and England, 2001). However, controlling for Human Capital does not explain the motherhood wage gap completely (Anderson et al., 2003).

According to the Human Capital Theory, biological mothers are assumed to perform worse at work than childless employees or fathers. They are assumed to have fewer working experience compared to non-mothers as they spend less time on the labour market, e.g. due to maternal leaves. They might even be lower educated if they already anticipated their wish to focus on motherhood and thus be less active on the labour market. Hence, biological mothers are believed to have a lower productivity rate than non-mothers. With the exception of women anticipating motherhood and already investing less in their education beforehand, mothers' loss in productivity is attributed to the time they spend on pregnancy and related issues. After pregnancy, women might have a stronger identity formation and emotional and hormonal bond to the child. When comparing SSC birth mother and DSC mother, this should apply to both of



them in a similar manner. According to the reasoning of the Human Capital approach, parenthood should affect those parents who physically bear the child worse than those who do not. Effects on SSC social mothers could thus be similar to those on DSC fathers.

### **Allocation of Energy**

This approach is linked to the Human Capital Theory and is based on the assumption that every individual has a set amount of energy to be distributed among various activities. When a greater share of this energy is spent on one part in life, less energy remains to be spent on other activities (Becker, 1985). In line with the traditional gender ideology, mothers are expected to spend a larger share of their energy on childcare and household chores than non-mothers. Hence, the theory assumes that mothers dispose over a smaller amount of effort which they can put into their job and thus perform poorer at work compared to any other employee who is not a mother. This shortcoming in energy spent at work and the worse performance that results out of it, are hence assumed to transfer into lower income for mothers.

In line with this approach, the question how much work in household and childrearing the mother's partner takes over, plays a crucial role in determining how much energy a mother spends on these tasks. It is known that unpaid labour is not necessarily fairly divided between the two partners. The partner who disposes over greater resources outside of the house often ends up doing a smaller share of housework tasks. The bargaining theory presents the idea that partners try to 'negotiate the household chores away' by presenting their labour market qualities (Blood and Wolfe, 1963). Thus, the partner who is better off in terms of employability, income and working hours, spends less time on housework than their partner (Sutphin, 2010).

Considering SSC, however, research has found that especially female SSC put a lot of emphasis on equal division of household chores and paid labour compared to DSC (Jaspers and Verbakel, 2013; Brewster, 2017; Álvarez Bernardo et al., 2018). Coming back to parental income developments, the amount of energy a mother can spend on her paid job does also depend on her partner. With regard to the more equal division of tasks within SSC, the Allocation of Energy approach predicts a stronger effect on income for mothers in DSC compared to either mother in SSC. Different from SSC social mothers, DSC fathers are assumed to spend the smallest share of their energy at home and should thus be affected less than SSC social mothers.

Evidence for the Allocation of Energy approach is ambiguous. Productivity at work is hard to assess and only a small body of research has tested this theory. Some studies, relying on self-reported productivity measures, reject the mechanism of Allocation of Energy (Bielby and Bielby, 1984; Kmec, 2011). Whereas others find support, either taking children's age as a proxy (based on the assumption that less energy needs to be spent on caring tasks when children grow older) (Anderson et al., 2003; Kahn et al., 2014) or investigating professional athletes' performances (Kalist, 2008). Support can further be found for the importance of the gender of a mother's partner (Evertsson and Boye, 2018; Evertsson et al., 2018). A female partner is found to contribute more to household and childrearing chores than a male partner. According to this idea, more negative effects on income developments can be expected for DSC mothers than for SSC birth mothers, as SSC social mothers might leave their partners with more energy, they can assign to their job compared to DSC fathers.

Similar to the Human Capital Theory, the approach of Allocation of Energy assumes mothers to actually perform worse at work than non-mothers. They are assumed to spend more of their energy at home and therefore less at their jobs. However, here the reasons for this worse

performance are mainly societal ones. On the one hand birth mothers might be more likely to spend more energy at home as they might have a stronger identity formation and emotional and hormonal bond to the child. Nevertheless, even though they are not the ones bearing the child, societal factors as normative expectations towards women in the household in general and especially so mothers as well as the stronger orientation towards equality among SSC than DSC might compel SSC social mothers to be more heavily involved at home than DSC fathers. Along these lines, this approach suggests less beneficial earnings developments for SSC social mothers than for DSC fathers.

### **Compensating Wage Differentials**

The third approach considers that mothers not only need to spend a considerable amount of their energy but also of their time on motherhood duties. Taking care of daily tasks as feeding, as well as unexpected events, as doctor's appointments, but also merely organizing the child's daily routine, are easier to fulfil when the mother can be physically close to her child. Considering this, the theory of Compensating Wage Differentials suggests that mothers are prone to prefer family friendly working conditions which allow them to organize their time around their child's needs. Such family compatible job conditions can be short commutes, the possibility to work from home, or being employed part-time. As assumed by the theory of Compensating Wage Differentials, searching for occupations with these characteristics limits the range of appropriate jobs and such jobs might be more likely to be paid poorly (Filer, 1985). This approach suggests that mothers accept these losses in income willingly and thus trade higher salaries against family compatible working conditions (Gangl and Ziefle, 2009; Felfe, 2012). Mothers hence have a higher likelihood to end up in lower paid jobs compared to childless individuals or fathers.

The body of research on the theory of Compensating Wage Differentials is small and inconsistent. Mothers are found to be more likely to work in part-time jobs (Kalleberg, 2000). Even more so, the younger the children are (Misra et al., 2007). However, this does not explain a lot of variance within income and does only have a small (Felfe, 2012) to no effect (Budig and England, 2001). Moreover, Budig and England do not find evidence for the explanation that mothers trade shorter commuting hours against lower income. Another study that supports the explanation of Compensating Wage Differentials shows that mothers experience a larger motherhood wage gap when making use of family friendly support policies offered by their employer (Glass, 2004). Glass finds working from home and working part-time to lead to a smaller wage growth for mothers. She does not find significant effects for schedule flexibility and childcare assistance offered by the employer.

Different from the Human Capital approach and the theory of Allocation of Energy, the approach of Compensating Wage Differentials suggests that mothers voluntarily miss out on a higher income. They voluntarily conform to traditional gender roles as well as to the societal expectation stating that a good mother should arrange her life around the needs of her child. Looking at SSC there could however be a difference in the commitment birth mothers and social mothers make, as they might undergo different motherhood identity formations. It has been found that in female SSC both women define and occupy the mother role. Nevertheless, even they have a tendency to divide childcare chores in such a way that the birth mother is more involved (Ciano-Boyce and Shelley-Sireci, 2002). Research shows that family members' positions within the family impact their behaviour outside of the family (Hequembourg, 2004). In line with that, SSC social mothers – who seem to take over the role of the secondary carer within the household - are more likely to spend more hours in paid work compared to birth mothers. The latter are in turn often found to occupy the role of the primary caregiver. They are more often responsible for tasks considered as motherly such as main care tasks, whereas

social mothers more often take over the part of “rough and tumble play” (Ciano-Boyce and Shelley-Sireci, 2002). Ciano-Boyce and Shelley-Sireci (2002) point out that lesbian adoptive families are the ones dividing all roles the most equal. This leads to the assumption that biology does still play a role. Via their more embodied view on motherhood, birth mothers might thus feel a different kind of commitment (McNair and Dempsey, 2018: 108). Reaffirming this idea, Hennekam and Ladge (2017) find that social mothers have a harder time to reveal and live their mother identity compared to birth mothers, especially so at their job. Birth mothers could thus more easily be willing to adjust their working hours to their child’s need than social mothers. According to this approach, SSC birth mothers’ income should thus be affected by motherhood less strong than DSC mothers’ income but stronger than that SSC social mothers’ income.

All of the three above mentioned approaches are rooted in the idea that motherhood imposes diminishing effects to a mother’s productivity at work (Oesch et al., 2017). They lead to different expected outcomes for birth mothers in SSC and social mothers in SSC which are again different than the assumptions which can be made about mothers in DSC. To examine which of the theories holds for mothers in SSC, this study will test these three theories against each other by means of competing hypotheses. For this purpose, the social as well as the birth mothers in SSC will be compared to mothers in DSC as well as to fathers in DSC.

*1a) According to the Human Capital approach, the income development after transitioning into parenthood should be equal for mothers in DSC and birth mothers in SSC. Also, in line with the Human Capital, income developments can be expected to be higher and similar for all parents who are not physically bearing the baby. Social mothers in SSC should thus experience similar income increases to fathers in DSC.*

*1b) According to the theory of Allocation of Energy, the income development after transitioning into parenthood should be increasing the least for mothers in DSC. Both mothers in SSC should experience an equally strong increase in income, which should be higher compared to mothers in DSC. DSC fathers are expected to experience a higher increase in earnings than SSC birth and social mother.*

*1c) According to the theory of Compensating Wage Differentials, the increase in income after transitioning into parenthood should be the smallest for mothers in DSC. It should be bigger for birth mothers in SSC. The most beneficial income development can be expected for social mothers in SSC. DSC fathers are expected to experience a higher increase in earnings than SSC social mothers.*

### **Expectation States Theory**

On a different note from the above-mentioned approaches, the Expectation States Theory explains the motherhood wage gap as a result out of statistical discrimination. Statistical discrimination assumes rational decision-making actors seeking to increase productivity (Baumle and Fossett, 2005). Here the idea that the stereotype of a good mother as a strong contradiction to the image of the ideal worker comes into play (Correll et al., 2007). Employers are assumed to believe that mothers perform poorer at work than non-mothers. Thus, non-mothers are expected to increase a businesses' productivity more than mothers. This believe can be explained via the Expectation States Theory. A fundamental assumption of this approach is the existence of status characteristics, which are "categorical distinction[s] among people [...] [with] widely-held cultural beliefs associate[ing] greater status worthiness and competence with one category of the distinction" (Ridgeway and Correll, 2004). Such status characteristics lead employers

towards certain expectations and do impact their decisions subtly. Thus, status characteristics serve the purpose to simplify judgement about others. Detached from the status characteristic gender, the specific role of motherhood is considered to serve as a status characteristic which tells employers that the person, holding the characteristic “mother”, is likely to show poorer work performance than another person without this characteristic (Ridgeway and Correll, 2004). The expectation that a mother performs poorly compared to other employees is rooted in the traditional gender ideology according to which a woman - and even more so a mother – is expected to be a good homemaker.

It could be argued that lesbian women might face different stereotypes at the labour market. Research has shown that lesbian women are considered more dominant, autonomous and assertive. In general, they are more likely to have a continuous employment history and might thus seem more committed (Baert, 2014). Even after transitioning into parenthood, mothers in SSC are considered more productive employees compared to mothers in DSC (Peplau and Fingerhut, 2004). This might either be related to their image of more committed workers or at least the social mother – likewise as a father in a DSC – might be considered the family’s primary breadwinner (Correll et al., 2007). However, the Netherlands are a particularly liberal country with regard to homosexuality, seeing sexual affairs as private business (Hekma and Duyvendak, 2011; Kelley, 2011). At least when examining salaries at labour market entry, no difference between homosexual and straight employees could be found (Plug and Berkhout, 2004). Furthermore, employers cannot be expected to know about their employees’ sexual orientation. Therefore, stereotypes against homosexuals as such are not assumed to be relevant. Employers’ stereotypes against mothers in general do nevertheless still play a role. The question whether DSC mothers, birth mothers and social mothers in SSC are treated differently depends on the information the employer has. The employer’s knowledge might depend on how long they do already know the mother. Therefore, stereotypes by employers might differ

between mothers who stay with the same employer and those who change to a new employer. Fuller (2018) suggests that if a new employer is aware of a woman's motherhood, the employer may more likely see this as a symbol of the mother's lower commitment and bad working performance, whereas once an old employer is familiar with a woman's high working standards, this image might be stable even after a woman transitioned into motherhood. Research has also found mothers to make less wage gains when starting new jobs compared to childless women (Looze, 2014). It is however unclear, whether such losses result out of employer discrimination. Evidence by Bygren et al. (2017) is speaking against this idea. Investigating job changes, they do not find any employer discrimination with reference to gender or parental status. These studies do assume that the employer is informed about a woman's parental status, which is – especially with regard to SSC couples – not necessarily the case. If a mother stays with the same employer, this employer will notice her pregnancy, know that she is a biological mother, most likely think of her as the primary caregiver and judge her job performance accordingly. The other way around, the employer will also realize when a woman is becoming a mother but is not going through pregnancy. He might ascribe a different status characteristic from mother to her and rather consider her a secondary caregiver and primary family earner and thus a more productive employee. When however, either kind of mother starts working with a new employer after birth, this employer will most likely not be aware of the details of her motherhood and can be expected to judge all mothers in the same way. According to the Expectation States Theory, fathers should be judged as more productive employees and thus experience a higher income increase than any kind of mother when switching to a new employer.

*2) When switching to a new employer, no differences in income developments between mothers in DSC and social or birth mothers in SSC are expected, as the employer might not be aware of specifics about the motherhood. The employer might thus consider an SSC social mother to*



*be a mother instead of a family earner. Fathers in DSC should experience more beneficial income developments than social mothers in SSC.*

## **Data**

This study makes use of Dutch register data from Statistics Netherlands for the years 2006 to 2016. These data are especially suitable to answer the above-mentioned research question, due to their comprehensive number of cases. Especially when looking at SSC, data with sufficient numbers of cases are scarce. However, for the Netherlands we are able to identify every same-sex couple having children, as long as both partners are officially registered as legal parents. Furthermore, the data show a great availability of demographic, as well as job-related information.

These register data are retrieved from the System of Social statistical Datasets (SSD). Via the Dutch population register, backbone of the SSD, children and their parents can be identified. Every individual is registered with a unique identifier via which the birth care register can be linked to other population register information. The target population are all individuals within couples who had their first child between 2008 and 2014. The data contain information on their income development within a 4-year period covering information about the individuals two years before up to two years after the birth of their first child. As the person register information also contains a variable on the person's sex, female SSC can be identified. By means of the birth care register (Perined), also biological mothers in female SSC can be identified.

The following selections are made to the sample: First, all members of the Dutch population who have their first child within the investigation period are considered. As the theories

considered in this study might predict different outcomes for single parents, only parents who are in couples are considered. Because we want to look at the parents' income development when transitioning into parenthood, we only select parents who did not have any children prior to 2008. Cases are dropped, if children are born outside of the Netherlands, as we do not have complete information about those children (e.g. specifics about their birth) or their parents. Further, as we focus on differences between birth mothers and their partners, children who are adopted by both parents are dropped. Moreover, cases are dropped if children and both parents are not registered at the same address during the period of two years after childbirth, as this would mean that they do not share a household. With this selection also those, who did not live in the Netherlands or families in which a parent or child deceased within the time frame, are excluded. If parents would separate, their individual economic situation would likely change, which we do not account for in this study. We only select parents, who are employed two years before having the baby, as investigating income developments after childbirth is only possible if people have had an income before. In order to receive a large enough number of parents in FSSC, we chose to also keep only one parent if the other does not fulfil the employment criteria. Being employed is here defined as being employed and working at least 12 hours per week and earning at least 7€ per hour. Self-employed parents cannot be taken into account as we lack precise measures of income for them. Another important criterion for the sample is that the biological mother of the child is known, which is crucial to distinguish between birth – and social mother in female SSC. Table 1 shows the stepwise reduction of cases for the whole sample, as well as for female SSC, with  $t=1$  referring to the point in time two years prior to childbirth and  $t=2$  referring to two years after childbirth.

**Table 1: Stepwise reduction of cases**

Selection	Total lost cases	Total N	FSSC N
<i>(1) Children born in NL</i>	32.624	494.721	1.973
<i>(2) Child is not adopted (by both parents at same day)</i>	35	494.686	1.970
<i>(3) All family members still in the Netherlands and alive at <math>t=2</math></i>	4.218	490.468	1.960
<i>(4) Child living with parents</i>	53.956	431.693	1.791
<i>(5) Biological mother known</i>	12.842	418.851	1.325
<i>(5) At least one parent employed at <math>t=1</math></i>	106.439	312.421	1.094

After these selections, a total of 1.094 children born to female same-sex couples are left. For the analyses, this leaves us with a number of 1.119 SSC birth mothers and 1.069 SSC social mothers.

## **Measures**

This study looks at two points in time and all of the following measures are therefore present at  $t=1$ , being two years prior to childbirth, and  $t=2$ , being two years after childbirth.

### **Dependent variable**

This study's dependent variable is the natural logarithm of hourly income of employees (wages). In the register data, income is present in the form of annual and monthly income. Investigating annual or monthly income, would however not capture whether a parent's wage changes because he or she is actually changing the number of working hours – e.g. due to a parental leave or a switch to working part-time – or whether a parent is payed less or more money for a set amount of work. Looking at hourly income, does instead give a more nuanced picture. Thus, hourly income is calculated by dividing monthly earnings through the monthly contracted working hours. The logarithm of hourly wage is chosen because this enables us to interpret the results in terms of percent differences in income between the groups.

### **Independent variables**

The first main independent variable is a categorical variable indicating whether the observation is a female SSC birth mother, a female SSC social mother, a DSC mother or a DSC father. The second main independent variable is a dummy indicating whether a person is working at the same employer at  $t=1$  and  $t=2$ .

### **Control variables**

A set of control variables, which have been proven influential in prior research, is further included. we include whether someone is the only earner in the household at  $t=1$  and  $t=2$ , which

means that the partner is not working. Also, we check whether someone stops working between the two points in time. Further job seniority is included, which is a five-point scale indicating whether a person works for less than a year, more than one year, more than two years, more than three years or more than four years. Working part-time at  $t=1$  and  $t=2$  is included as a dummy and is defined as working 34 hours per week or less. Other dummies indicate whether someone works in the public sector at  $t=1$  or  $t=2$ . The public sector is defined as working for the government, working in health or in education. Further, it is controlled for working in a female dominated sector. The percentages of female workers per sector are calculated by means of Statistics Netherlands' *Statline* information. The year 2011 was chosen, as it is the exact middle of my period of observation. Sectors with a female share of more than 50% are counted as female. These sectors are the hotel and catering industry, the government, education, health, culture sport and recreation, provision of other services and working in households. Another control indicates whether both parents already lived together at  $t=1$ . This information was deduced from the population register. Further, we include the parents' age at childbirth, their ethnicity, a five-point scale indicating the degree of urbanization of the place of residence and whether parents are in a formal union like marriage or registered partnership. In the cross-sectional models, we also control for the income at  $t=1$ . Lastly, we control for three categories of education (low, middle and high education) and a category for missing.

## Models

A series of models is run to examine wage developments after transitioning into parenthood. First, a logit model was used to estimate how likely people are to stop working after  $t=1$ . Then an OLS model on the natural logarithm of the hourly wage at  $t=2$  with the independent and control variables mentioned above plus a control for hourly wage at  $t=1$  is estimated. In a next step, a Heckman selection model is applied in order to also account for those people who are not anymore working at  $t=2$ . Still working at  $t=2$  is modelled as a function of the type of parent, the marriage status at  $t=1$  and  $t=2$ , the job seniority, working part-time at  $t=1$ , a person's overall hourly wage at  $t=1$  and the partner's personal income at  $t=1$ . In this model, we do however only model the likelihood of a parent who was employed at  $t=1$  and does not have any job at  $t=2$ . It does not capture the small number of people who change from being employed to being self-employed.

Lastly, fixed effects models are used. A hausman test showed that fixed effects models are to be preferred over random effects models. The advantage of fixed effects models is that they control for stable, unobserved heterogeneity. Such coefficients are then interpreted as comparisons of an observation with him- / herself at several points in time. Looking at the wage developments, such unobserved, time invariant criteria can for example be a person's attitude towards certain values influencing her attitude towards working as a mother. Fixed-effects models are modelled according to the following formula:

$$Y_{it} = \beta_0 + \beta_1 \text{TYPEOFPARENT}_{it} + \beta_2 \text{CONTROLS}_{it} + \alpha_i + \varepsilon_{it}$$

where  $Y_{it}$  is the logarithm of hourly income of individual  $i$  at time  $t$ ,  $\beta_1$  is whether the individual  $i$  has a child at time  $t$ ,  $\beta_2$  is a vector of time varying controls,  $\alpha$  is the intercept for

unobservable stable characteristics of individual and  $\varepsilon$  is the error term. For all models, the standard errors are clustered on the relationship level.

## **Results**

### **Descriptive results**

The final sample consist of 1.119 SSC birth mothers and 1.069 SSC social mothers as well as 311.299 mothers in DSC and 311.337 fathers in DSC. Descriptive results can be found in Table 2. SSC birth mothers have the highest hourly earnings at  $t=1$ , earning on average 17,70€, followed by SSC social mothers with 17,30€, DSC fathers with 16,38€ and DSC mothers earning 14,70€ per hour. Two years after childbirth, birth- and social mothers in SSC have average hourly earnings of 21€ at  $t=2$ , whereas DSC mothers have an average hourly income of 18€ and DSC fathers receive on average 20,30€. DSC fathers do most often have the function of only earners, whereas DSC mothers are the ones who most often stopped working completely between  $t=1$  and  $t=2$ . With regard to age, mothers in SSC are averagely older than DSC parents, with the DSC birth mother being 34 years old, the DSC social mother being 33 years old, the DSC father being 32 years old and the DSC mother being the youngest with averagely 30 years at the time of childbirth. Looking at education, mothers in SSC are more often in the highest category compared to mothers in DSC. Fathers in DSC are least often in the highest category. The descriptive results show that mothers in SSC are a selective group especially with regard to age and education.

**Table 2: Means and standard deviations (in parentheses) for variables used in analysis, by type of parent; Dutch register data 2006 - 2016**

	FSSC birth mother	FSSC social mother	DSC mother	DSC father
Hourly wage at t=2	21.04 (12.25)	21.09 (8.87)	17.92 (9.41)	20.28 (13.09)
Hourly wage at t=1	17.71 (6.73)	17.28 (6.25)	14.70 (5.92)	16.38 (7.49)
Change of employer	.45 (.50)	.52 (.50)	.51 (.50)	.54 (.50)
Only earner at t=1	.12 (.32)	.08 (.09)	.11 (.32)	.18 (.38)
Only earner at t=2	.08 (.27)	.41 (.42)	.08 (.27)	.18 (.38)
Stopped employment after t=1	.10 (.3)	.11 (.31)	.18 (.38)	.16 (.36)
Stopped working after t=1	.07 (.26)	.06 (.24)	.14 (.35)	.10 (.30)
Changed from employment to self-employment after t=1	.03 (.16)	.04 (.2)	.03 (.17)	.05 (.21)
Job seniority	4.64 (.95)	4.52 (1.07)	4.47 (1.1)	4.55 (1.04)
Part-time at t=1	.26 (.44)	.22 (.41)	.27 (.44)	.11 (.31)
Part-time at t=2	.50 (.50)	.35 (.48)	.64 (.48)	.14 (.35)
Public sector at t=1	.31 (.46)	.29 (.45)	.21 (.4)	.07 (.26)
Public sector at t=2	.61 (.49)	.57 (.5)	.45 (.5)	.17 (.37)
Female sector at t=1	.33 (.47)	.3 (.46)	.23 (.42)	.08 (.27)
Female sector at t=2	.64 (.48)	.59 (.49)	.49 (.5)	.18 (.39)
Living together with partner at t=1	.85 (.35)	.85 (.36)	.78 (.41)	.76 (.43)
Age at time of childbirth	33.75 (3.91)	32.93 (5.16)	29.81 (3.87)	32.02 (4.72)
Dutch	.90 (.30)	.90 (.30)	.84 (.37)	.83 (.38)
Urbanity at t=1	3.93 (1.11)	3.9 (1.14)	3.52 (1.27)	3.54 (1.26)
Urbanity at t=2	3.76 (1.18)	3.76 (1.17)	3.40 (1.26)	3.44 (1.25)
Married/registered at t=1	.30 (.46)	.30 (.46)	.24 (.43)	.25 (.43)
Married/registered at t=2	.87 (.34)	.87 (.34)	.62 (.48)	.64 (.48)
Low level of education	.03 (.18)	.03 (.16)	.05 (.21)	.07 (.25)
Middle level of education	.23 (.42)	.23 (.42)	.30 (.46)	.29 (.45)
High level of education	.60 (.49)	.57 (.49)	.49 (.5)	.42 (.49)
Educational level missing	.14 (.35)	.17 (.38)	.16 (.37)	.23 (.42)



## Multivariate results

Table 3 shows the results of the different models. The models are based on the sample of all couples employed at  $t=1$  and also exclude those who are self-employed at  $t=2$  as it is not possible to calculate their accurate hourly wage. The dependent variable of the cross-sectional models is the hourly wage at  $t=2$ , the OLS model therefore also excludes those not employed at  $t=2$ . After excluding those who are self-employed at  $t=2$ , a logit models estimates that there is no difference in the likelihood between SSC birth- and social mother to change into unemployment. Compared to SSC birth mothers, the odds of staying employed are however 0.30 smaller for DSC fathers and 0.50 smaller for DSC mothers.

For the following models, birth mothers in SSC couples are the reference category as opposed to the other parents, which are SSC social mothers, DSC mothers and DSC fathers. The OLS regression model shows that social mothers in SSC, as well as fathers in DSC, experience a highly significant larger increase in earnings compared to SSC birth mothers. Also, the size of the effects for SSC social mothers and DSC fathers is similar. The SSC social mother experiences a 3% higher increase in hourly wages compared to SSC birth mothers, whereas the DSC father experiences a 5% higher increase. As the dependent variable is the natural logarithm of hourly wages, the coefficients can be interpreted as percent changes. For DSC mothers no significant difference compared to the hourly wages of SSC birth mothers can be found.

This model only considers parents who are employed at  $t=1$  and also at  $t=2$ . However, especially mothers might change their status of employment and decide to stop working after childbirth. In order to account for those people changing their employment status from being employed to being unemployed between  $t=1$  and  $t=2$ , a Heckman selection model is estimated. This considers the selection from being employed to being unemployed. Those who go from

being employed at  $t=1$  to being self-employed, are not considered. However, these are only 3,8% of the sample. The dependent variable is again the logarithm of hourly wage at  $t=2$ . The results of the Heckman model do support the OLS estimates; the effect sizes are slightly bigger. A significant 4% higher increase in hourly wages is found for SSC social mothers and for DSC fathers a 6% higher increase compared to female same-sex birth mothers is found. No significant difference can be found between the SSC birth mothers and DSC mothers. Both, the OLS model as well as the Heckman model include the control variables mentioned above. Full tables, showing all controls can be found in the appendix (Table 5).

Finally, using the longitudinal structure of the data and controlling for unobserved heterogeneity in a fixed effects model, the picture changes a bit. A Hausman test showed, that the fixed effects model is to be preferred over the random effects model. Estimating a fixed effects model, it is now controlled for any otherwise not observable characteristics, that do not change over time and might be correlated to the dependent variable, the logarithm of hourly wages. As the main independent variable, the 'type of parent' is a time constant variable, which cannot be included in the fixed effects model on its own, it is included as an interaction term with a variable indicating the time. This variable varies from 0 at  $t=1$  to 1 at  $t=2$ . As at  $t=2$  all individuals transitioned into parenthood, this interaction estimates their income development after having a child. The main effect of the interaction between type of parent and having a child, is the slope for the reference category, SSC birth mothers. The birth mother experiences an increase in hourly earnings of 11% between  $t=1$  and  $t=2$ . The interaction parameters for SSC social mothers and DSC fathers show the differences between the slopes of these groups compared to the reference category. For both groups the slopes significantly differ from the one for SSC birth mothers. The effect found for SSC mothers differs by +4% and DSC fathers differ by +6% from SSC birth mothers. These results confirm what is already found in the OLS and Heckman models. With regard to the DSC mother, the fixed-effects model confirms the

results of the cross-section models and does not show any significant difference in income development between the DSC mother and the SSC birth mother.

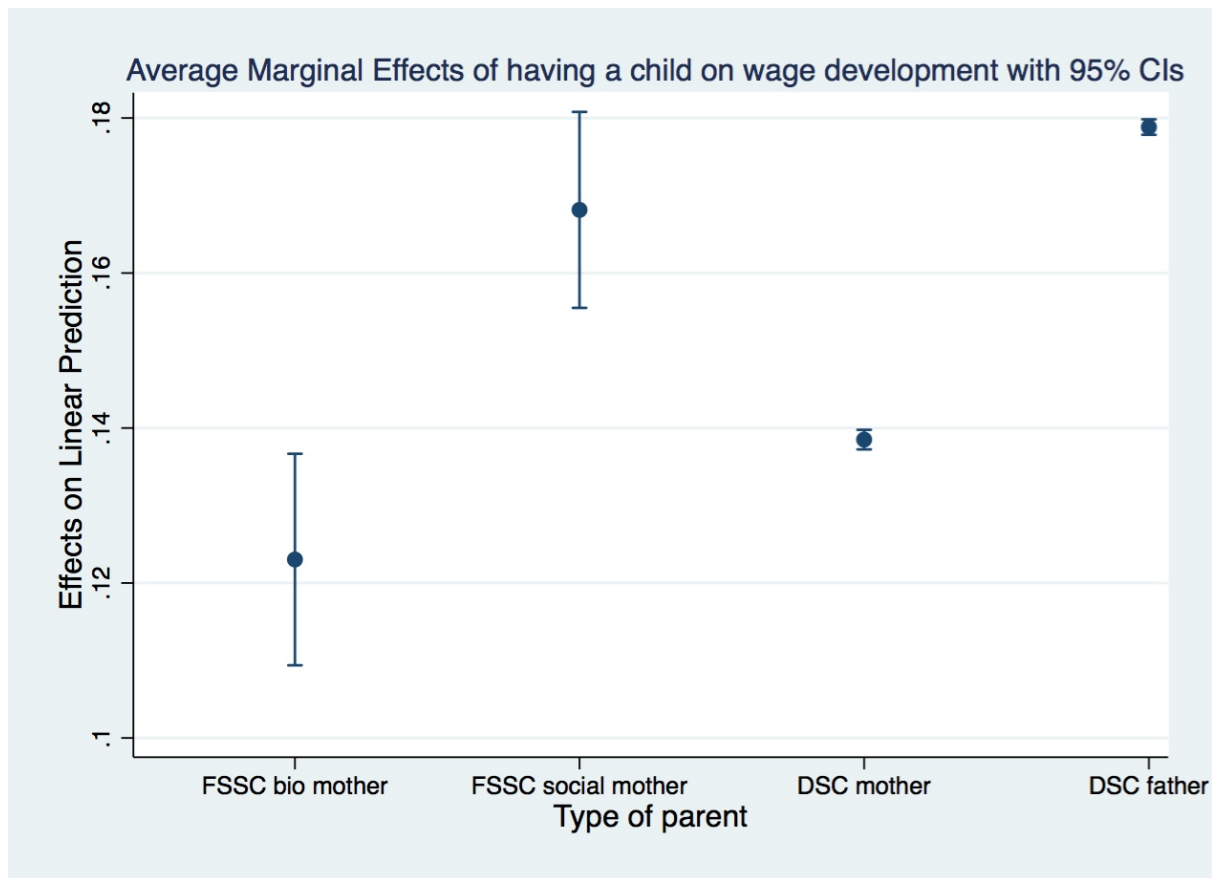
**Table 3: Regression results**

	(1) OLS	(2) Heckman	(3) FE
FSSC social mother	0.032* (0.009)	0.035* (0.010)	
DSC mother	-0.007 (0.006)	-0.004 (0.008)	
DSC father	0.052** (0.006)	0.058** (0.008)	
Time			0.109** (0.007)
Parent type * Time			
FSSC social mother			0.044** (0.009)
DSC mother			0.013 (0.007)
DSC father			0.055** (0.007)
_cons	2.607* (0.008)	2.607* (0.009)	2.682** (0.000)
Obs.	513287	588540	1169731
R-squared	0.626		0.380

Standard errors are in parenthesis clustered on relationship level  
 \*\* p<0.01, \* p<0.05

Figure 1 shows the average marginal effects of time on income developments of the fixed-effects model. Here, we see that the 95% confidence intervals of the increase in hourly wages of SSC social mother and DSC father overlap (i.e. their increases do not significantly differ), but these two do not overlap with those of SSC birth mother and DSC mother.

Figure 1: Average marginal effects of having a child on wage development with 95% CIs



As the group of the reference category, SSC birth mothers, is small in comparison to the DSC mothers and fathers, the model is re-estimated several times, now using the all other types of parents as reference categories. Results of these models, which can be found in the appendix (Table 7), do support the significant difference in earnings increase between the SSC birth and social mother. No significant difference can be found between SSC social mothers and DSC fathers.

These results suggest support for the Human Capital hypothesis (H1a), which in turn means that the hypotheses 1b (Allocation of Energy) and 1c (Compensating Wage Differentials) cannot be confirmed.

With regard to the second hypothesis, an interaction between the dummy indicating whether parents changed their employer between  $t=1$  and  $t=2$  and the type of parent is included. The results can be found in Table 4. The full results including all controls can be found in the appendix (Table 6). The main effect of the interaction between change of employer and type of parent is the slope for the reference category, birth mothers in female SSC. In my final model, the fixed-effects model, it is not significant, indicating that there is no significant effect of changing the employer on income developments for SSC birth mothers. The interaction parameters for SSC social mothers, different sex couple mothers and fathers do show the differences between the slopes for these groups compared to the reference category. As none of them is significant, the fixed effects model shows that the effect of change of employer of SSC birth mothers does not significantly differ from employee mobility of any other type of parents.

**Table 4: Regression results including change of employer interaction**

	(1) OLS	(2) Heckman	(3) FE
FSSC social mother	0.037** (0.011)	0.038** (0.013)	
DSC mother	-0.001 (0.008)	-0.000 (0.009)	
DSC father	0.050** (0.008)	0.052** (0.009)	
Time			0.114** (0.009)
Parent type * Time			
FSSC social mother			0.047** (0.012)
DSC mother			0.012 (0.009)
DSC father			0.045** (0.009)
Change of employer	0.027* (0.013)	0.017 (0.021)	0.018 (0.014)
Parent type * Change of employer			
FSSC social mother	-0.012 (0.019)	-0.005 (0.016)	-0.006 (0.020)
DSC mother	-0.013 (0.013)	-0.008 (0.016)	0.004 (0.014)
DSC father	0.005 (0.013)	0.012 (0.016)	0.022 (0.014)
_cons	2.607** (0.009)	2.607** (0.010)	2.682** (0.000)
Obs.	513287	588540	1169731
R-squared	0.626		0.380

Standard errors are in parenthesis clustered on relationship level

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

Nevertheless, the main effect of change of employer included in the model without the interaction (see Table 3) is significantly positive, we see that a change of employer does have a positive effect for all types of parents. This does not support hypothesis 2.

## Discussion

This thesis looks at the income developments of men and women after transitioning into parenthood in the Netherlands. Specifically, mothers in female same-sex couples (SSC) are compared to mothers and fathers in different-sex couples (DSC), which does not only deliver new insights on the impact of motherhood on wages for female SSC but in particular helps to disentangle biological from societal explanations for parents' wage developments. Investigating mothers in female SSC bears the advantage, that there are two mother figures of which only the so-called birth mother experiences the biological consequences of birth, whereas the social mother is merely exposed to the societal effects of motherhood.

Making use of Dutch register data from Statistics Netherlands, we look at couples having their first child between 2008 and 2014. Every individual who is registered in the Netherlands is covered by the register data, which enables me to end up with a large enough number of observations to study even smaller societal groups, as mothers in female same-sex couples. Further, the data contains a wide range of demographic information and labour market outcomes. The downside of working with register data however lies in the fact that rather subjective information, as for example attitudes, values and opinions are not covered.

Overall, we do find SSC birth mothers to be more similar to DSC mothers whereas SSC social mothers resemble fathers rather than other types of mothers. All four groups experience increased hourly wages over this period of four years, which is in line with the Dutch labour market system, providing annual pay raises to the employees.

This study's main focus was to shed more light on how parental income developments after transitioning into parenthood can be explained. The results suggesting a strong difference between those parents who bear the child and those who do not, are in line with the Human Capital hypothesis. As hypothesized, we find SSC birth mothers as well as DSC mothers to experience similar wage developments after childbirth, which are less beneficial than those of SSC social mothers and DSC fathers. For the latter two, the wage developments are again hypothesized to be similar, which also gets confirmed by the analysis. This does however also mean that the approaches of Allocation of Energy and Compensating Wage Differentials do not show to be the driving forces. According to these approaches, we would have expected SSC social mothers to be affected by transitioning into parenthood either same as strong as the SSC birth mother (Allocation of Energy), or at least significantly stronger than a DSC father (Compensating Wage Differentials).

With regard to the Expectation States Theory, the data does not support my hypothesis. Overall, changing the employer does affect the hourly wage positively, which is in line with previous literature that found job mobility to be rewarded economically, especially so for younger employees (Lam et al., 2012). In line with my initial assumption, a change of employer does have similarly beneficial effects on SSC birth mothers, SSC social mothers and DSC mothers. However, contrary to the expected, a change of employer does not affect DSC fathers differently from either kind of mother. Rather than delivering support for employer discrimination against mothers, this result leads to the assumption that when switching to a new employer, this employer does either not have any information on the new employees' parenthood status or does simply not discriminate against mothers. Another explanation for this finding could lie in the fact that when hiring new employees, employers might make a difference between childless employees and those with children, hence not only discriminating



against mothers but against all parents similarly. However, taking into account that research does usually find a fatherhood premium of fathers as opposed to childless men (Koslowski 2010), the idea that employers discriminate against all parents likewise is highly unlikely. My result does thus suggest that discrimination against mothers is not the driving force in explaining income development when switching to a new employer after transition into parenthood. However, as we found similarly low income increases for birth-giving mothers and similarly higher increases for the parents not giving birth, employer discrimination can still not be out ruled. It might be the case that employers distinguish between birth- and social mothers and only discriminate against birth mothers. They might rather consider SSC social mothers to be family breadwinners and thus only discriminate against birth-giving mothers.

A limitation of this thesis lies in the fact that the data do not allow to better identify employer discrimination. Future research could look into this, for example by means of employer surveys and implicit association test, checking employers' prejudices against mothers. Moreover, this study was not able to investigate the long-term income developments and how they might differ between SSC mothers and DSC parents. Due to the already small group of SSC mothers, the sample would have become insufficient when only focussing on those mothers which can be followed a longer period after childbirth. Also, when having a second child, SSC mothers might possibly switch roles between birth- and social mother, which might lead to completely new roles within the family and on the labour market. Thus, results of such a study could hardly be related to DSC, as mothers and fathers in DSC cannot perform such a change of roles. Nevertheless, the long-term developments might be interesting to investigate in the light of getting more insight into female SSC's income developments.

As the literature on parental wage developments among same-sex couples is scarce, there is an array of questions future research still needs to address. How do wages develop for men in male SSC who transfer into parenthood? How can this be compared to fathers in DSC? And how does the situation look like for either SSC or DSC who adopt a child? As there is no birth-giving parent among neither male SSC nor couples who adopt kids, both partners could act and earn very equal. However, they could also be expected to create parent-roles by taking over specific tasks, which would again make them more similar to biological parents.

This study depicts twofold contributions to the scarce existing literature. For one it adds to the literature on child penalties for homosexual parents, especially as literature did so far not consider the female same-sex biological mother apart from the one who does not bear the child (Baumle, 2009; Waite and Denier, 2015). In contrast, this study did dig deeper by looking into differences between the two types of mothers in SSC.

From a broader perspective, this study does not only contribute to our knowledge on female SSC's wage developments after transitioning into parenthood. It also contributes to disentangle biological from societal concepts explaining parental income developments.

What do the findings mean out of this broader perspective? we found wage developments for SSC social mothers to be rather similar to DSC fathers than to biological mothers in either kind of couple, whereas no difference was found between SSC birth mothers and DSC mothers. On the one hand, one might expect SSC social mothers to still comply with societal expectations of a mother, which does not get confirmed by this study. On the other hand, it might be argued that by being the partner to a biological mother, the social mother takes over other characteristics and is no longer 'only' a woman, but also has developed a different feeling of commitment and economic responsibility for her partner and child. This would go in line with

the idea that people account for the situation and relationship they are in and act accordingly (Sabia et al., 2017). Also from a societal point of view, it can be argued that a SSC social mother can rather be considered a family earner, than a mother. These results do overall support the Human Capital approach. Looking at the differences between birth and social mother, we might re-consider the idea of a male breadwinner model towards the existence of a gender-neutral breadwinner in which partners' roles are shaped by the situation they are in.

## Appendix

**Table 5: Full results including all controls variables and Heckman selection variables without the interaction of change of employer**

	(1) OLS	(2) Heckman	(3) FE
FSSC social mother	0.032** (0.009)	0.035** (0.010)	
DSC mother	-0.007 (0.006)	-0.004 (0.008)	
DSC father	0.052** (0.006)	0.058** (0.008)	
Time			0.109** (0.007)
Parent type * Time			
FSSC social mother			0.044** (0.009)
DSC mother			0.013 (0.007)
DSC father			0.055** (0.007)
Change of employer	0.023** (0.001)	0.019** (0.001)	0.030** (0.001)
Only earner at t=1	-0.010** (0.001)	-0.012** (0.001)	
Only earner at t=2	0.001 (0.001)	0.007** (0.001)	
Only earner			
Job seniority			
Working at least 1year	0.022** (0.003)	0.021** (0.003)	0.044** (0.003)
Working at least 2years	0.032** (0.002)	0.030** (0.003)	0.049** (0.003)
Working at least 3years	0.035** (0.002)	0.035** (0.003)	0.048** (0.003)
Working at least 4years	0.029** (0.002)	0.028** (0.002)	0.010** (0.002)
Public sector at t=1	0.025** (0.003)	0.022** (0.003)	
Public sector at t=2	0.035** (0.002)	0.039** (0.003)	
Public sector			
Part-time at t=1	-0.051** (0.001)	-0.052** (0.001)	
Part-time at t=2	0.002* (0.001)	0.003** (0.001)	
Part-time			0.039** (0.001)
Female sector at t=1	-0.026** (0.003)	-0.026** (0.003)	
Female sector at t=2	-0.015** (0.002)	-0.011** (0.003)	
Female sector			

Age (at time of birth)	0.001** (0.000)	0.001** (0.000)	
Urbanity at t=2	0.014** (0.000)	0.014** (0.000)	
Urbanity			
Married/reg at t=1	0.001 (0.001)	0.001* (0.001)	
Married/reg at t=2	0.006** (0.001)	0.006** (0.001)	
Married / reg.			
Quantile 1	-0.269** (0.001)	-0.271** (0.001)	
Quantile 2	-0.130** (0.001)	-0.130** (0.001)	
Quantile4	0.135** (0.001)	0.134** (0.001)	
Quantile5	0.406** (0.001)	0.405** (0.001)	
Ethnicity			
Moroccan	-0.026** (0.002)	-0.029** (0.003)	
Turkish	-0.035** (0.002)	-0.036** (0.003)	
Surinamese	-0.020** (0.003)	-0.023** (0.003)	
Antilles & Aruba	-0.011** (0.004)	-0.014** (0.004)	
Other non-western c.	-0.001 (0.002)	-0.008** (0.002)	
Other western c.	0.013** (0.001)	0.013** (0.001)	
Unknown	0.107 (0.107)	0.116 (0.108)	
Educational level			
middle	0.061** (0.001)	0.060** (0.002)	
high	0.177** (0.001)	0.180** (0.002)	
missing	0.074** (0.001)	0.076** (0.002)	
Year of childbirth			
2009	-0.000 (0.001)	-0.001 (0.001)	
2010	-0.027** (0.001)	-0.029** (0.001)	
2011	-0.065** (0.001)	-0.064** (0.001)	
2012	-0.070** (0.001)	-0.069** (0.001)	
2013	-0.046** (0.001)	-0.044** (0.001)	
2014	-0.018** (0.001)	-0.019** (0.001)	
_cons	2.607** (0.008)	2.607** (0.009)	2.682** (0.000)

### Heckman Selection

Parent type			
FSSC social mother		0.025	
		(0.100)	
DSC mother		-0.360**	
		(0.072)	
DSC father		-0.084	
		(0.072)	
Married/reg at t=1		-0.047**	
		(0.007)	
Married/reg at t=2		-0.071**	
		(0.006)	
Job seniority			
Working at least 1year		0.277**	
		(0.013)	
Working at least 2years		0.430**	
		(0.013)	
Working at least 3years		0.534**	
		(0.013)	
Working at least 4years		0.765**	
		(0.010)	
Part-time at t=1		-0.013	
		(0.007)	
Persink at t=1			
Quantile 1		-0.570**	
		(0.010)	
Quantile 2		-0.213**	
		(0.008)	
Quantile4		0.074**	
		(0.008)	
Quantile5		0.037**	
		(0.010)	
Partner income at t=1			
Quantile 1		-0.244**	
		(0.008)	
Quantile 2		-0.018**	
		(0.009)	
Quantile4		-0.052**	
		(0.009)	
Quantile5		-0.227**	
		(0.009)	
select:_cons		1.370**	
		(0.073)	
athrho:_cons		-0.095**	
		(0.006)	
lnsigma:_cons		-1.437**	
		1.399**	
Obs.	513287	588540	1169731
R-squared	0.626		0.380

---

Standard errors are in parenthesis clustered on relationship level

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

**Table 6: Full results including all controls variables and Heckman selection variables including the interaction of change of employer**

	(1) OLS	(2) Heckman	(3) FE
FSSC social mother	0.037** (0.011)	0.038** (0.013)	
DSC mother	-0.001 (0.008)	-0.000 (0.009)	
DSC father	0.050** (0.008)	0.052** (0.009)	
Time			0.114** (0.009)
Parent type * Time			
FSSC social mother			0.047** (0.012)
DSC mother			0.012 (0.009)
DSC father			0.045** (0.009)
Change of employer	0.027* (0.013)	0.017 (0.021)	0.018 (0.014)
Parent type * Change of employer			
FSSC social mother	-0.012 (0.019)	-0.005 (0.021)	-0.006 (0.020)
DSC mother	-0.012 (0.013)	-0.008 (0.016)	0.004 (0.014)
DSC father	0.005 (0.013)	0.012 (0.016)	0.022 (0.014)
Only earner at t=1	-0.010** (0.001)	-0.012** (0.016)	
Only earner at t=2	0.001 (0.001)	0.012** (0.001)	
Only earner			
Job seniority			
Working at least 1year	0.022** (0.003)	0.021* (0.003)	0.044* (0.003)
Working at least 2years	0.032** (0.002)	0.030** (0.003)	0.049* (0.003)
Working at least 3years	0.035** (0.002)	0.035** (0.003)	0.049** (0.003)
Working at least 4years	0.029** (0.002)	0.028** (0.002)	0.010** (0.002)
Public sector at t=1	0.024** (0.003)	0.021** (0.003)	
Public sector at t=2	0.035** (0.002)	0.039** (0.003)	
Public sector			
Part-time at t=1	-0.051** (0.001)	-0.052** (0.001)	
Part-time at t=2	0.001 (0.001)	0.003** (0.001)	
Part-time			0.039** (0.001)
Female sector at t=1	-0.026** (0.003)	-0.027** (0.003)	
Female sector at t=2	-0.015** (0.002)	-0.011** (0.003)	

Female sector			
Age (at time of birth)	0.001**	0.001**	
	(0.000)	(0.000)	
Urbanity at t=2	0.014**	0.014**	
	(0.000)	(0.000)	
Urbanity			
Married/reg at t=1	0.001	0.001	
	(0.001)	(0.001)	
Married/reg at t=2	0.006**	0.006**	
	(0.001)	(0.001)	
Married / reg.			
Quantile 1	-0.269**	-0.271**	
	(0.001)	(0.001)	
Quantile 2	-0.130**	-0.130**	
	(0.001)	(0.001)	
Quantile4	0.135**	0.134**	
	(0.001)	(0.001)	
Quantile5	0.406**	0.405**	
	(0.001)	(0.001)	
Ethnicity			
Moroccan	-0.026**	-0.029**	
	(0.002)	(0.003)	
Turkish	-0.035**	-0.036**	
	(0.002)	(0.003)	
Surinamese	-0.020**	-0.023**	
	(0.003)	(0.003)	
Antilles & Aruba	-0.011**	-0.014**	
	(0.004)	(0.004)	
Other non-western c.	-0.001	-0.008**	
	(0.002)	(0.002)	
Other western c.	0.013**	0.013**	
	(0.001)	(0.001)	
Unknown	0.103	0.112	
	(0.107)	(0.108)	
Educational level			
middle	0.061**	0.060**	
	(0.001)	(0.002)	
high	0.177**	0.180**	
	(0.001)	(0.002)	
missing	0.075**	0.076**	
	(0.001)	(0.002)	
Year of childbirth			
2009	-0.000	-0.001	
	(0.001)	(0.001)	
2010	-0.027**	-0.029**	
	(0.001)	(0.001)	
2011	-0.065**	-0.064**	
	(0.001)	(0.001)	
2012	-0.070**	-0.068**	
	(0.001)	(0.001)	
2013	-0.046**	-0.044**	
	(0.001)	(0.001)	
2014	-0.017**	-0.018**	
	(0.001)	(0.001)	
_cons	2.607**	2.607**	2.682**
	(0.009)	(0.010)	(0.000)



### Heckman Selection

Parent type			
FSSC social mother		0.025	
		(0.100)	
DSC mother		-0.360**	
		(0.072)	
DSC father		-0.085	
		(0.072)	
Married/reg at t=1		-0.047**	
		(0.007)	
Married/reg at t=2		-0.071**	
		(0.006)	
Job seniority			
Working at least 1year		0.277**	
		(0.013)	
Working at least 2years		0.430**	
		(0.013)	
Working at least 3years		0.534**	
		(0.013)	
Working at least 4years		0.765**	
		(0.010)	
Part-time at t=1		-0.014*	
		(0.007)	
Persink at t=1			
Quantile 1		-0.570**	
		(0.010)	
Quantile 2		-0.213**	
		(0.008)	
Quantile4		0.074**	
		(0.008)	
Quantile5		0.036**	
		(0.010)	
Partner income at t=1			
Quantile 1		-0.244**	
		(0.008)	
Quantile 2		-0.017**	
		(0.009)	
Quantile4		-0.052**	
		(0.009)	
Quantile5		-0.227**	
		(0.009)	
select:_cons		1.370**	
		(0.073)	
athrho:_cons		-0.094**	
		(0.006)	
lnsigma:_cons		-1.437**	
		(0.004)	
Obs.	513287	588330	1169731
R-squared	0.626		0.380

---

Standard errors are in parenthesis clustered on relationship level

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

**Table 7: Fixed effects results varying by reference category**

	(1)	(2)	(3)	(4)
	Ref cat FSSC birth mother	Ref cat FSSC social mother	Ref cat DSC mother	Ref cat DSC father
Time	0.109** (0.007)	0.153** (0.007)	0.122** (0.002)	0.164** (0.002)
Parent type * Time				
FSSC birth mother		-0.044** (0.009)	-0.013 (0.007)	-0.055** (0.007)
FSSC social mother	0.044** (0.009)		0.031** (0.006)	-0.011 (0.006)
DSC mother	0.013 (0.007)	-0.031** (0.006)		-0.042** (0.001)
DSC father	0.055** (0.007)	0.011 (0.006)	0.042** (0.001)	
Change of employer	0.030** (0.001)	0.030** (0.001)	0.030** (0.001)	0.030** (0.001)
Job seniority				
Working at least 1year	0.044** (0.003)	0.044** (0.003)	0.044** (0.003)	0.044** (0.003)
Working at least 2years	0.049** (0.003)	0.049** (0.003)	0.049** (0.003)	0.049** (0.003)
Working at least 3years	0.048** (0.003)	0.048** (0.003)	0.048** (0.003)	0.048** (0.003)
Working at least 4years	0.010** (0.002)	0.010** (0.002)	0.010** (0.002)	0.010** (0.002)
Part-time	0.039** (0.001)	0.039** (0.001)	0.039** (0.001)	0.039** (0.001)
_cons	2.682** (0.000)	2.682** (0.000)	2.682** (0.000)	2.682** (0.000)
Obs.	1169731	1169731	1169731	1169731
R-squared	0.380	0.380	0.380	0.380

Standard errors are in parenthesis clustered on relationship level

\*\* p&lt;0.01, \* p&lt;0.05

## Literature List

- Álvarez Bernardo, G., Romo Avilés, N., and García Berbén, A. B. (2018). Doing gender in Spanish same-sex couples. The distribution of housework and childcare. *Journal of Gender Studies*, 27(6), 672-682.
- Anderson, D. J., Binder, M., and Krause, K. (2003). The motherhood wage penalty revisited: Experience, heterogeneity, work effort, and work-schedule flexibility. *ILR Review*, 56(2), 273-294.
- Avellar, S., and Smock, P. J. (2003). Has the price of motherhood declined over time? A cross-cohort comparison of the motherhood wage penalty. *Journal of marriage and family*, 65(3), 597-607.
- Badgett, M. L. (2009). *When gay people get married: What happens when societies legalize same-sex marriage*. NYU Press.
- Baert, S. (2014). Career lesbians. Getting hired for not having kids?. *Industrial Relations Journal*, 45(6), 543-561.
- Baumle, A. K. (2009). The cost of parenthood: Unraveling the effects of sexual orientation and gender on income. *Social Science Quarterly*, 90(4), 983-1002.
- Baumle, Amanda K., and Mark Fossett. 2005. "Statistical Discrimination in Employment: Its Practice, Conceptualization, and Implications for Public Policy." *American Behavioral Scientist* 48:1250–74.
- Becker, G. S. (1985). Human capital, effort, and the sexual division of labor. *Journal of labor economics*, 3(1, Part 2), S33-S58.
- Becker, G. S. (1991). *A Treatise on the Family*. Cambridge, Mass: Harvard.
- Bielby, D. D. V., and Bielby, W. T. (1984). Work commitment, sex-role attitudes, and women's employment. *American Sociological Review*, 234-247.
- Blood, R. and Wolfe, D. M. (1963). *Husbands & Wives. The Dynamics of Married Living*. Glencoe: Free Press.
- Brewster, M. E. (2017). Lesbian women and household labor division: A systematic review of scholarly research from 2000 to 2015. *Journal of lesbian studies*, 21(1), 47-69.
- Budig, M. J., and England, P. (2001). The wage penalty for motherhood. *American sociological review*, 204-225.
- Bygren, M., Erlandsson, A., and Gähler, M. (2017). Do employers prefer fathers? Evidence from a field experiment testing the gender by parenthood interaction effect on callbacks to job applications. *European Sociological Review*, 33(3), 337-348.
- Ciano-Boyce, C., and Shelley-Sireci, L. (2003). Who is mommy tonight: Lesbian parenting issues. *Journal of Homosexuality*, 43(2), 1-13.

- Correll, S. J., Benard, S., and Paik, I. (2007). Getting a job: Is there a motherhood penalty?. *American journal of sociology*, *112*(5), 1297-1338.
- Davis, S. N., and Greenstein, T. N. (2009). Gender ideology: Components, predictors, and consequences. *Annual Review of Sociology*, *35*, 87-105.
- Downing, J. B., and Goldberg, A. E. (2011). Lesbian mothers' constructions of the division of paid and unpaid labor. *Feminism & Psychology*, *21*(1), 100-120.
- Evertsson, M. (2013). The importance of work: Changing work commitment following the transition to motherhood. *Acta Sociologica*, *56*(2), 139-153.
- Evertsson, M., Boye, K., and Erman, J. (2018). Fathers on call? A study on the sharing of care work between parents in Sweden. *Demographic Research*, *39*, 33-60.
- Evertsson, M., and Boye, K. (2018). The Transition to Parenthood and the Division of Parental Leave in Different-Sex and Female Same-Sex Couples in Sweden. *European Sociological Review*, *34*(5), 471-485.
- Felfe, C. (2012). The motherhood wage gap: What about job amenities?. *Labour Economics*, *19*(1), 59-67.
- Filer, R. K. (1985). Male-female wage differences: The importance of compensating differentials. *ILR Review*, *38*(3), 426-437.
- Fuller, S. (2017). Segregation across Workplaces and the Motherhood Wage Gap: Why Do Mothers Work in Low-Wage Establishments?. *Social Forces*, *96*(4), 1443-1476.
- Gangl, M., and Ziefle, A. (2009). Motherhood, labor force behavior, and women's careers: An empirical assessment of the wage penalty for motherhood in Britain, Germany, and the United States. *Demography*, *46*(2), 341-369.
- Glass, J. (2004). Blessing or curse? Work-family policies and mother's wage growth over time. *Work and occupations*, *31*(3), 367-394.
- Glauber, R. (2018). Trends in the Motherhood Wage Penalty and Fatherhood Wage Premium for Low, Middle, and High Earners. *Demography*, *55*(5), 1663-1680.
- Hekma, G., and Duyvendak, J. W. (2011). The Netherlands: Depoliticization of homosexuality and homosexualization of politics. *The lesbian and gay movement and the state: comparative insights into a transformed relationship*, 103-17.
- Hennekam, S. A., and Ladge, J. J. (2017). When lesbians become mothers: Identity validation and the role of diversity climate. *Journal of Vocational Behavior*, *103*, 40-55.
- Hequembourg, A. (2004). Unscripted motherhood: Lesbian mothers negotiating incompletely institutionalized family relationships. *Journal of Social and Personal Relationships*, *21*(6), 739-762.

Jaspers, E., and Verbakel, E. (2013). The division of paid labor in same-sex couples in the Netherlands. *Sex roles*, 68(5-6), 335-348.

Kahn, J. R., García-Manglano, J., and Bianchi, S. M. (2014). The motherhood penalty at midlife: Long-term effects of children on women's careers. *Journal of Marriage and Family*, 76(1), 56-72.

Kalleberg, A. L. (2000). Nonstandard employment relations: Part-time, temporary and contract work. *Annual review of sociology*, 26(1), 341-365.

Kalist, D. E. (2008). Does motherhood affect productivity, relative performance, and earnings?. *Journal of Labor Research*, 29(3), 219-235.

Kelley, J. (2001). Attitudes towards homosexuality in 29 nations. *Australian Social Monitor*, 4, 15-22.

Kmec, J. A. (2011). Are motherhood penalties and fatherhood bonuses warranted? Comparing pro-work behaviors and conditions of mothers, fathers, and non-parents. *Social Science Research*, 40(2), 444-459.

Kokanovic, R., Michaels, P. A., and Johnston-Ataata, K. (Eds.). (2018). *Paths to Parenthood: Emotions on the Journey Through Pregnancy, Childbirth, and Early Parenting*. Springer.

Koslowski, A. S. (2010). Working fathers in Europe: Earning and caring. *European Sociological Review*, 27(2), 230-245.

Lam, S. S., Ng, T. W., and Feldman, D. C. (2012). The relationship between external job mobility and salary attainment across career stages. *Journal of Vocational Behavior*, 80(1), 129-136.

Looze, J. (2014). Young women's job mobility: the influence of motherhood status and education. *Journal of Marriage and Family*, 76(4), 693-709.

McNair, R., and Dempsey, D. (2018). Same-Sex Attracted Parents' Emotional Transitions to Parenthood. In *Paths to Parenthood*(pp. 95-118). Palgrave Macmillan, Singapore.

Misra, J., Budig, M. J., and Moller, S. (2007). Reconciliation policies and the effects of motherhood on employment, earnings and poverty. *Journal of Comparative Policy Analysis*, 9(2), 135-155.

Nitsche, N., and Grunow, D. (2016). Housework over the course of relationships: Gender ideology, resources, and the division of housework from a growth curve perspective. *Advances in Life Course Research*, 29, 80-94.

Oesch, D., Lipps, O., and McDonald, P. (2017). The wage penalty for motherhood: Evidence on discrimination from panel data and a survey experiment for Switzerland. *Demographic Research*, 37, 1793-1824.

- Peplau, L. A., and Fingerhut, A. (2004). The paradox of the lesbian worker. *Journal of Social Issues*, 60(4), 719-735.
- Plug, E., and Berkhout, P. (2004). Effects of sexual preferences on earnings in the Netherlands. *Journal of Population Economics*, 17(1), 117-131.
- Ridgeway, C. L., and Correll, S. J. (2004). Motherhood as a status characteristic. *Journal of Social Issues*, 60(4), 683-700.
- Sabia, J. J., Wooden, M., and Nguyen, T. T. (2017). Sexual Identity, Same-Sex Relationships, and Labour Market Dynamics: New Evidence from Longitudinal Data in Australia. *Southern Economic Journal*, 83(4), 903-931.
- Sigle-Rushton, W., and Waldfogel, J. (2007). Motherhood and women's earnings in Anglo-American, Continental European, and Nordic countries. *Feminist economics*, 13(2), 55-91.
- Staff, J., and Mortimer, J. T. (2012). Explaining the motherhood wage penalty during the early occupational career. *Demography*, 49(1), 1-21.
- Sutphin, Suzanne Taylor. 2010. Social Exchange Theory and the Division of Labor in Same Sex Couples. *Marriage & Family Review* 46, 191 – 206.
- Taniguchi, H. (1999). The timing of childbearing and women's wages. *Journal of Marriage and the Family*, 1008-1019.
- Waite, S., and Denier, N. (2015). Gay pay for straight work: Mechanisms generating disadvantage. *Gender & Society*, 29(4), 561-588.